

THE BRICKBUILDER

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CHURCH TOWER, MEXICO CITY.

One of the most elaborate tile towers in Mexico, employing yellow, blue, and white glazed tile, and unglazed red tile.

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Comparative Cost of Various Types of Construction for Three Houses.

GEORGE HUNT INGRAHAM.

IT IS the purpose of this article to present the comparative costs of building three types of houses, each house having been figured in several types of construction. The three examples chosen for treatment are the work of Boston architects and a different set of contractors was employed to figure each house and each type of construction. The labor and materials have been figured at the prevailing Boston prices of to-day. It is felt that the arrangement of the data, which has been obtained at the expense of a great deal of careful work, will enable any architect to readily figure the difference in cost of different types of construction when applied to his own work. A fairly accurate idea of the different costs for the different types of construction is not only desirable but necessary, since the average client of to-day desires to know what the cost of his house will be if built of brick, terra cotta blocks stuccoed, wire lath and stucco, or regular wood construction.

The costs given do not include heating, plumbing, electric work, interior decorations, wall papers, and lighting fixtures. The reason for omitting these items is that it is desired to present the comparative costs on construction only. There would be little value in comparing the cost of a house heated by a hot air furnace with one heated by steam or hot water. Then again the character of the plumbing fixtures varies according to the personal taste of the owner, and one electric fixture in a house may equal the cost of all that would be put into another.

In addition to the original cost of a house it is of growing importance, especially to the owner, to take into consideration the cost of maintenance, and the figures relating to same which are here given are representative of the consensus of opinion held by several architects and builders of large experience.

The costs of all three houses are computed with shingle roof, dipped in stain before laying and given one brush coat after laying. A more permanent form of roof covering would be desirable, but this form was adopted for uniform comparison only.

The brick houses are all figured with Dover River water-struck brick, costing \$19.00 per thousand delivered on the job.

The terra cotta block houses are of 8-inch block made by the National Fireproofing Company.

The cypress siding houses are of 8-inch cypress siding, painted three coats of lead and oil paint.

Of the houses under consideration, Putnam & Cox were the architects for number one, George Hunt Ingraham for number two, and James Purdon for number three. These houses have all been built, as may be seen by the illustrations. The estimated cost of each house if of wood construction is as follows:

TABLE I.

	Wire Lath and Stucco.	Cypress Siding (painted white).	Clapboards (painted white).	Shingles (stained).
Number one	\$8,100.00	\$7,800.00	\$7,800.00	\$7,875.00
Number two	16,970.00	16,400.00	16,500.00	16,200.00
Number three	19,685.00	19,625.00	19,625.00	19,625.00
	Cost per cu. ft.	Cost per cu. ft.	Cost per cu. ft.	Cost per cu. ft.
Number one, 34,089 cubic contents	23c.	23c.	23c.	23c.
Number two, 84,837 cubic contents	20c.	19c.	19c.	19c.
Number three, 72,380 cubic contents	27c.	27c.	27c.	27c.

If built of brick or terra cotta blocks stuccoed the estimated cost is as follows:

TABLE II.

	Brick.	Terra Cotta Blocks (stuccoed).
Number one	\$8,820.00	\$8,580.00
Number two	17,125.00	17,465.00
Number three	21,780.00	20,900.00
	Cost per cu. ft.	Cost per cu. ft.
Number one, 34,089 cubic contents	26c.	25c.
Number two, 84,837 cubic contents	20c.	20½c.
Number three, 72,380 cubic contents	30c.	29c.

The per cent increase in cost of brick construction over wood and wire lath and stucco is as follows:

	Over Wood.	Over Wire Lath and Stucco.
Number one	12.71%	8.89%
Number two	4.63%	.91%
Number three	10.98%	10.64%

The per cent increase in cost of terra cotta blocks stuccoed construction over wood and wire lath and stucco is as follows:

	Over Wood.	Over Wire Lath and Stucco.
Number one	9.65%	5.93%
Number two	6.72%	2.92%
Number three	6.50%	6.17%

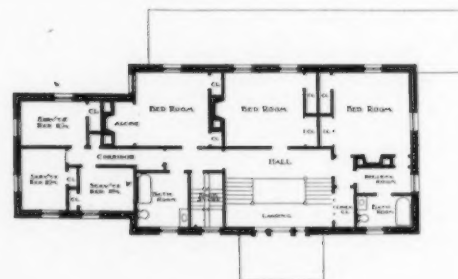
The clapboard houses are covered with best quality of spruce clapboards, laid 4½ inches to the weather, and painted three coats of lead and oil paint.



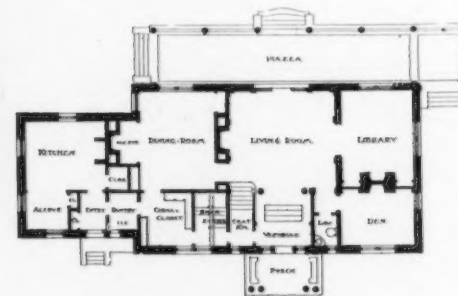
NUMBER ONE.
HOUSE AT CHESTNUT HILL, MASS.
Putnam & Cox, Architects.



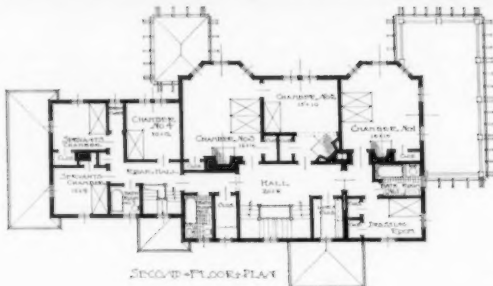
NUMBER THREE.
HOUSE AT WESTWOOD, MASS.
James Purdon, Architect.



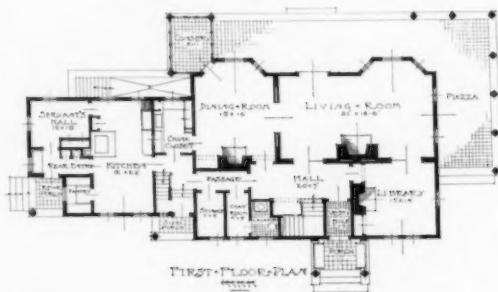
SECOND FLOOR PLAN.



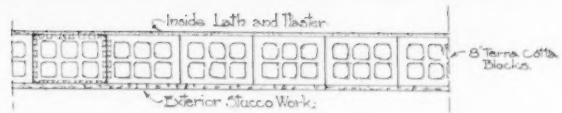
FIRST FLOOR PLAN.



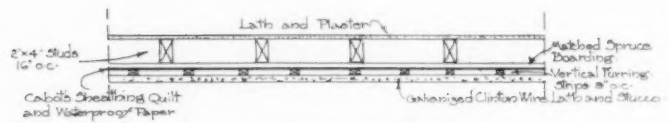
NUMBER TWO.
HOUSE AT MILTON, MASS.
George Hunt Ingraham, Architect.



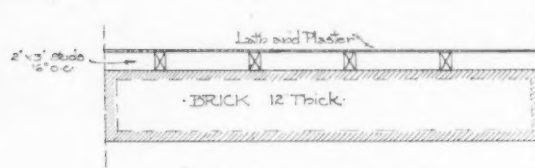
FIRST-FLOOR PLAN



HOUSE NUMBER ONE.
DETAIL SHOWING WALL CONSTRUCTION.
Putnam & Cox, Architects.



HOUSE NUMBER TWO.
DETAIL SHOWING WALL CONSTRUCTION.
George Hunt Ingraham, Architect.



HOUSE NUMBER THREE.
DETAIL SHOWING WALL CONSTRUCTION.
James Purdon, Architect.

The shingle houses are covered with clear sawed cedar shingles, laid 5 inches to the weather, dipped in Cabot's Creosote stain before laying, and brush coated one coat after laying.

House number one is built of terra cotta blocks stuccoed. House number two is built of wood frame, wire lathed and stuccoed. House number three is built of brick.

The types of exterior wall construction for the three houses are as shown in cuts a, b, and c.

INSURANCE. The insurance rates on the different types of construction are as follows:

TABLE III.

	Cost for 5 Years.	Cost for 15 Years.
Number one.		
Wood construction (wire lathed and stuccoed)	75c. per 100.	\$182.25
Wood construction (siding, clapboards, shingles)	75c. per 100.	175.00
Brick	50c. per 100.	132.50
Terra cotta blocks stuccoed	50c. per 100.	128.70
Number two.		
Wood construction (wire lathed and stuccoed)	75c. per 100.	375.82
Wood construction (siding, clapboards, shingles)	75c. per 100.	371.25
Brick	50c. per 100.	256.87
Terra cotta blocks stuccoed	50c. per 100.	261.97
Number three.		
Wood construction (wire lathed and stuccoed)	75c. per 100.	442.91
Wood construction (siding, clapboards, shingles)	75c. per 100.	441.56
Brick	50c. per 100.	326.70
Terra cotta blocks stuccoed	50c. per 100.	313.50

REPAIRS. In estimating the cost of repairs, it is allowed that the wood house would need painting every three years after the first three years, besides general repairs to outside woodwork. The replacing of the shingle roofs is not included:

TABLE IV.

	Average Cost per Year for Painting and Repairs.	Total Cost for 15 Years
Number one.		
Wood construction (wire lathed and stuccoed)	\$25.00*	\$375.00*
Wood construction (siding, clapboards, shingles)	75.00	1,125.00
Brick	25.00*	375.00*
Terra cotta blocks stuccoed	25.00*	375.00*
Number two.		
Wood construction (wire lathed and stuccoed)	35.00*	525.00*
Wood construction (siding, clapboards, shingles)	100.00	1,500.00
Brick	35.00*	525.00*
Terra cotta blocks stuccoed	35.00*	525.00*
Number three.		
Wood construction (wire lathed and stuccoed)	35.00*	525.00*
Wood construction (siding, clapboards, shingles)	100.00	1,500.00*
Brick	35.00*	525.00*
Terra cotta blocks stuccoed	35.00*	525.00*

* These figures are for painting and repairs on exterior woodwork only. No attempt has been made to give the

cost for upkeep of a wire lath and stucco wall. The efficiency of this type of construction, as is generally recognized, is dependent on the style of house, its location and exposure, quality of workmanship, quality of materials used, etc. But it is no exaggeration to say that in the matter of durability alone it will not compare with a wall built of brick or one built of terra cotta blocks and stucco, on either of which types the cost of upkeep would be very little, not only for 15 years but for a very much longer period.

COMPARATIVE COSTS AFTER FIFTEEN YEARS' OCCUPANCY.

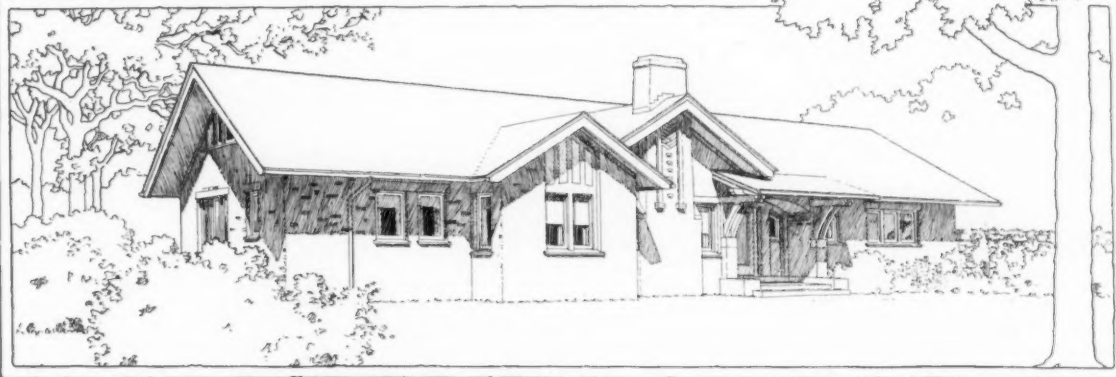
TABLE V.

	Number One.	Number Two.	Number Three.
Wood Construction (siding, clapboards, shingles).			
Original Cost	\$7,800.00	\$16,400.00	\$19,625.00
Repairs	1,125.00	1,500.00	1,500.00
Insurance	175.00	371.25	441.56
Totals	\$9,100.00	\$18,271.25	\$21,566.56
Wood Construction (wire lathed and stuccoed).			
Original Cost	\$8,100.00	\$16,970.00	\$19,685.00
Repairs	375.00	525.00	525.00
Insurance	182.25	375.82	442.91
Totals	\$8,657.25	\$17,870.82	\$20,652.91
5% Interest on difference in original cost over wood construction	225.00	427.50	45.00
	\$8,882.25	\$18,298.32	\$20,697.91
Brick Construction.			
Original Cost	\$8,820.00	\$17,125.00	\$21,780.00
Repairs	375.00	525.00	525.00
Insurance	132.50	256.87	326.70
Totals	\$9,327.50	\$17,906.87	\$22,631.70
5% Interest on difference in original cost over wood construction	765.00	543.75	1,616.25
	\$10,092.50	\$18,450.62	\$24,247.95
Terra Cotta Blocks Stuccoed.			
Original Cost	\$8,580.00	\$17,465.00	\$20,900.00
Repairs	375.00	525.00	525.00
Insurance	128.70	261.97	313.50
Totals	\$9,083.70	\$18,251.97	\$21,738.50
5% Interest on difference in original cost over wood construction	585.00	798.75	956.25
	\$9,668.70	\$19,050.72	\$22,694.75

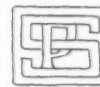
The figures here given, although not so favorable to the better type of construction as may be obtained in many other localities, furnish, nevertheless, evidence that more houses should be built with permanent construction, especially as the cost is so little in excess, and also that after fifteen years the repairs and deterioration on a wooden house are very much greater as the house grows older, while on the more permanent construction the repairs and deterioration after fifteen years remain practically the same year by year, to say nothing of the better salable value of the more permanent types. And, finally, from an artistic point of view, they add more dignity and tone to the vicinity in which they are erected. Also, the better types of construction are cooler in summer and warmer in winter, and require less fuel for heating.

THE SMALL HOUSE OF BRICK IN SUBURBS & COUNTRY II

BY ROBERT G. SPENCER, JR.



BRICK BUNGALOW FOR A HUNDRED FOOT SUBURBAN LOT



AS TO the planning and designing of small brick houses, there is little to be said which does not apply to domestic work in general.

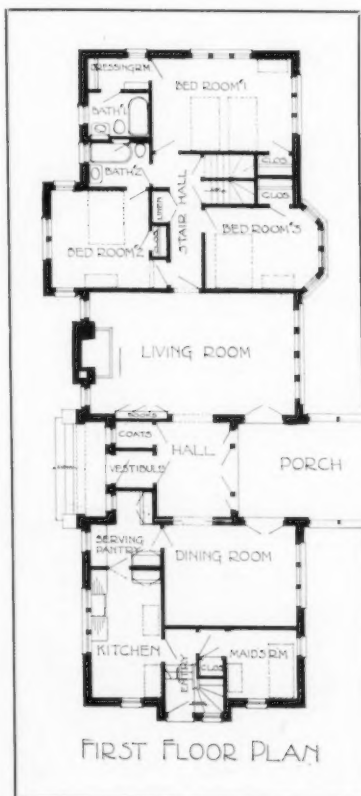
Owing to the relatively complex bedroom floor arrangement of the very much closeted American house, the planning has grown more difficult with the growing demand for two or three bath rooms, instead of the *one* which was good enough fifteen or twenty years ago; a house must be planned after the general scheme has been roughed out, from the second floor *down* rather than from the ground *up*, in order to secure the maximum of compactness, simplicity, and convenience in arrangement. The architect's difficulties are increased in the case of a brick house by the fact that there must be more complete coincidence between the first and second floor plans than in the case of a house built entirely of frame, or of brick in the first story and frame above. The flexibility of the latter, which may be called the "Composite" type, is really a better justification for its adoption (aside from the picturesque "half timber" in combination) than any saving in cost over an all brick construction. This saving is, however, comparatively slight and in some cases disappears entirely. It often happens, however, that so much more space is really required for family needs on the second than on the ground floor that the overhangs easily obtainable in frame construc-

tion help out a great deal. This same result, however, can usually be obtained by placing the porches, at least the principal porch, within the outline of the second floor.

As to *plan*, there are three general types of the small house, each of which is illustrated herewith: the three-bedroom type with a bedroom at each corner and stair-

case occupying the fourth; the four-bedroom type with one or two bath rooms; and the four- or five-bedroom type. The last type has two or more bath rooms on the second floor and a small library or reception room on the first floor in addition to a hall, dining room, service quarters and relatively large living room, which have become the typical subdivision of the three- or four-bedroom type of American house.

The roomy porch, often preferably planned for convenient use as an outdoor dining room, screened in summer and now commonly arranged for enclosing with sash in winter, is the one feature which particularly differentiates the American from the English modern suburban house. When properly planned and designed it adds not only to the apparent size and importance of the small house, but greatly enhances the charm and picturesqueness of the building as a composition. It mars the house only when built in the rather stupid and hackneyed manner still widely prevalent, as an exaggerated "lean-to" blanketing too much





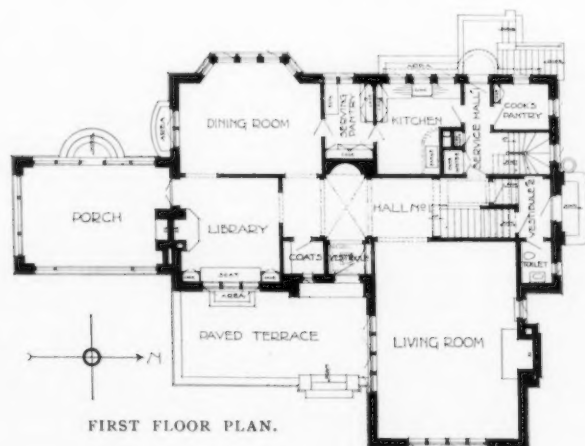
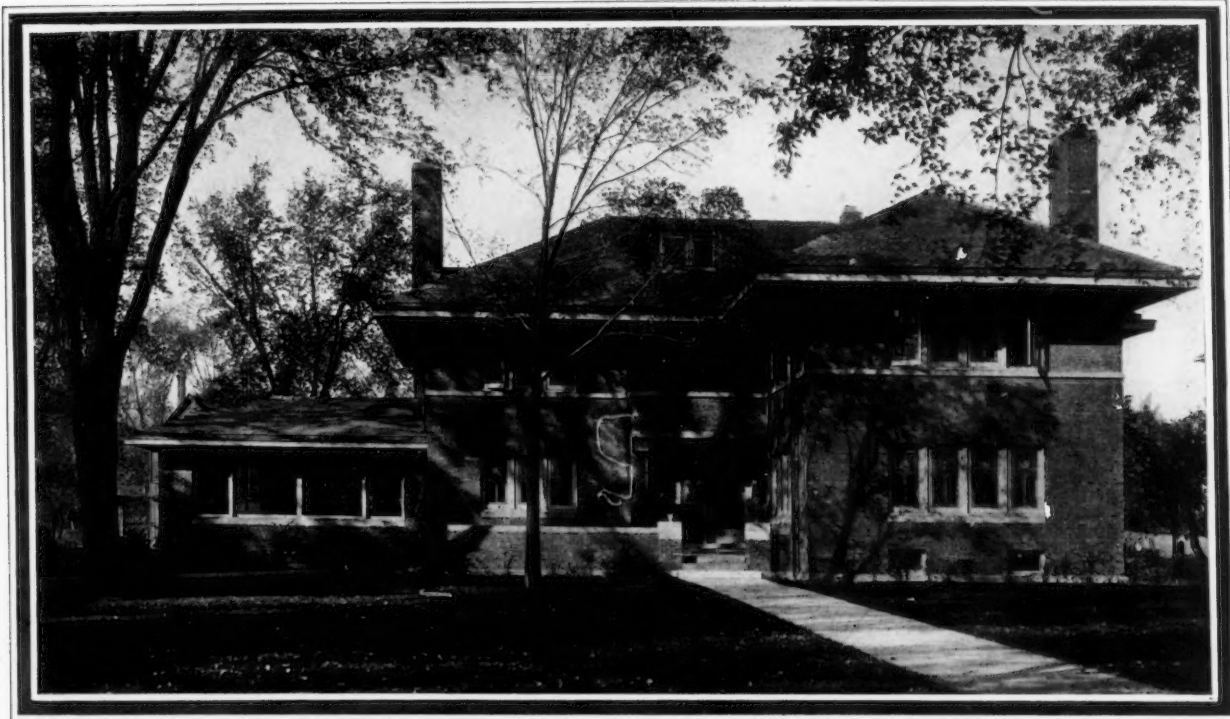
FIRST FLOOR PLAN

COMPOSITE BRICK AND
"HALF TIMBER HOUSE
AT OAK PARK, ILL. •
WITH SMALL SLEEPING
PORCH •
COST LESS THAN NINE
THOUSAND DOLLARS •



SECOND FLOOR PLAN

FIRST STORY WALLS,
ROUGH, DEEP RED
PAVERS IN GRAY MORTAR
ROOF, — LIGHT RED
CLOVERPORT KY SHINGLE
TILE •
STUCCO, — CREAMY BUFF •



HOUSE AT RIVER FOREST
ILLINOIS • WALLS,
CHICAGO COM • BRICK FACED WITH
DANVILLE ILL • KILN-RUN PAVERS
LAID IN PALE RED MORTAR •

BASE, SILLS & COPINGS, BUFF
BEDFORD STONE •

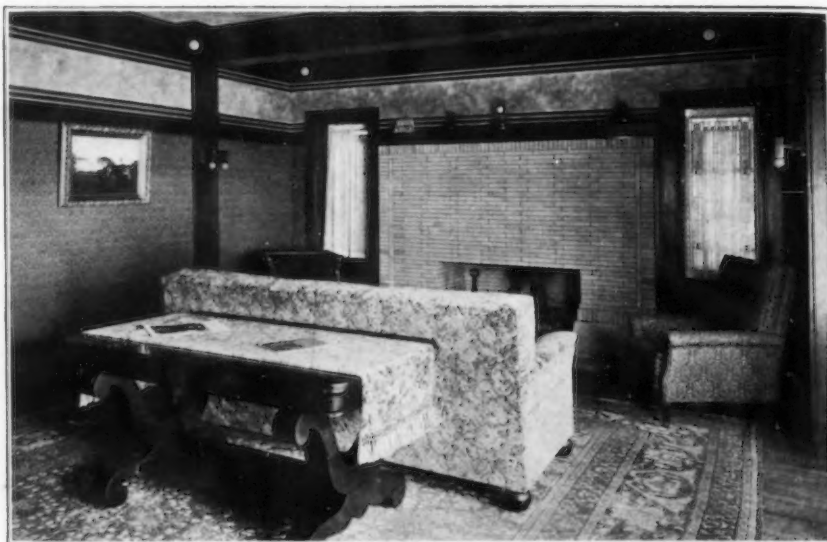
ROOF, LIGHT ROSY RED
KENTUCKY SHINGLE TILE •

ALL WINDOWS, ORNAMENTAL
GLASS IN ZINC BAR WITH ROSE
MOTIF IN DULL AMBER AND
IRIDESCENT GLASS •

LIBRARY FIRE-PLACE BELOW •



A FIRE PLACE OF ROMAN BRICK SHOWING THE EFFECTIVENESS OF A BROAD, QUIET TREATMENT WITHOUT THE HACKNEYED SHELF AND OTHER USUALLY OVER-DONE DETAILS
TALLMADGE AND WATSON ARCH'TS.



of the building and cutting off too much of the needed winter sunshine from the rooms within.

Another characteristic feature is the so-called "sleeping porch," or outdoor bedroom, which in the small house may be just large enough for one or two cots or a hammock.

Starting with a well-proportioned plan lending itself to a simple, quiet scheme of roofing, the character of the house design is largely determined by the character of the fenestration, by the type, pitch, and overhang of roofs, by the treatment of the eaves and gables, and by the use made of the possibilities of wood and stucco in combination with the brickwork.

As to fenestration, the bias of the designer will largely determine its character. The writer has always particularly favored casement windows arranged in mullioned groups rather than as individual formally spaced upright openings in the masonry. The former give broad pictures of the attractive views to be had from within which would be unpleasantly broken at the eye level by meeting rails. They also give freedom and simplicity, particularly to an informal composition. Where English casements are used they afford the maximum of warm weather ventilation, lending themselves readily to the use of Venetian blinds folding into overhead pockets, for openings much exposed to the direct rays of the sun. These broad mullioned openings in brickwork are economically spanned with steel angle lintels, or lintels of timber may be used as a substitute if resawed from old weather-seasoned stock after the common old English fashion.

One of the many charms of brick is the readiness with which, for the small house, it may be structurally combined with wood. Except for certain individual features, such as entrances and small porches, arches are more expensive than lintels and unless carefully placed and studied they tend seriously to disturb the composition.

In many cases the roof pitch, high or low, a powerful

element in house expression, may be determined largely by the bias of the architect.

Inasmuch, however, as a house with a given plan, considered apart from closely neighboring buildings, may be designed to look just as well with a roof of sharp pitch as with low roof lines, the question should be largely one of utility, particularly in the small house where space must be economized. Where the owner's requirements as to bedroom space are small a low roof-pitch affording just enough attic for storage purposes is sufficient,—the servants' bedroom and bath being located either on the first or second floor. Where the required bedroom accommodations are large in proportion to the building appropriation a gabled roof is naturally indicated with a good pitch for space, the gables providing ample light and cross ventilation with a minimum number of dormers. The designing of gables in brick where ample attic fenestration is needed requires careful study and affords opportunity for no little ingenuity. In most English houses the difficulty is avoided by placing small windows only in the gables, or omitting them entirely, the attic spaces not being considered of much importance.

Stucco, or wood and stucco, may often be used with good effects in the gables of a brick house where the eaves overhang. It is also a more substantial looking soffit covering than wood. While the difference in cost is probably small, the treatment of gables with stone or tile copings instead of overhanging verge boards tends to give a somewhat severe and formal look to the small house, although perhaps the most simple and logical treatment for solid masonry walls.

No one feature of the small house offers wider scope for ingenuity and good taste in design than the living-room fireplace. Many different interesting designs are possible in brick alone, the possibilities increasing with the use of wood, stone, tile, cast-cement and stucco composition for decorative effect.

A SMALL BRICK
AND STUCCO HOUSE
IN ROCHESTER, N.Y.
BASE & SILLS
ARE OF BRICK
ON EDGE. *

DESIGNED BY
CLAUDE F. BRAGDON. *



Since the average owner seems to have a fatal predilection for overloading *her* fireplace or so-called "mantel-shelf" with miscellaneous bric-à-brac, it is not a bad scheme to omit the shelf entirely wherever no serious opposition is offered. If the owner insists upon the shelf for a brick fireplace, let it be of stone or cement, as the cost will be little more than that of wood.

For paving terraces and the floors of porches, bricks laid in cement mortar on a good bed of concrete are less expensive and rather more harmonious for the brick house than quarry tiles. Good cement pavements cost about ten cents less per square foot than Roman bricks laid flat in herringbone or basket patterns. Although smoother and easier to keep clean than brick, cement is less desirable, particularly for surfaces exposed to the sun, as it reflects too much light and heat during our hot summers and tends to mar the quiet color harmony which results from the use of burned clay, not only for the exterior of the house, but for its outdoor accessories as well. For the same reason the walks about the grounds should also be of brick. Many suburban and country places are seriously marred by the hard, glaring, white lines of the too popular cement walk. A fairly true paver, laid flat on concrete with the joints well grouted with liquid cement, is not at all difficult to keep clear of snow in winter, a general prejudice to the contrary notwithstanding.

For very small places where the strictest economy must be observed, brick paving, not only for walks but for porches and terraces, may be laid on a bed of sand or fine gravel and the joints filled with fine sand, to be grouted if desired at some future time with cement after all danger of further settlement has passed.

Perhaps the most difficult question in connection with this subject of brick house building is that of cost. There are such wide variations in local conditions as to costs of

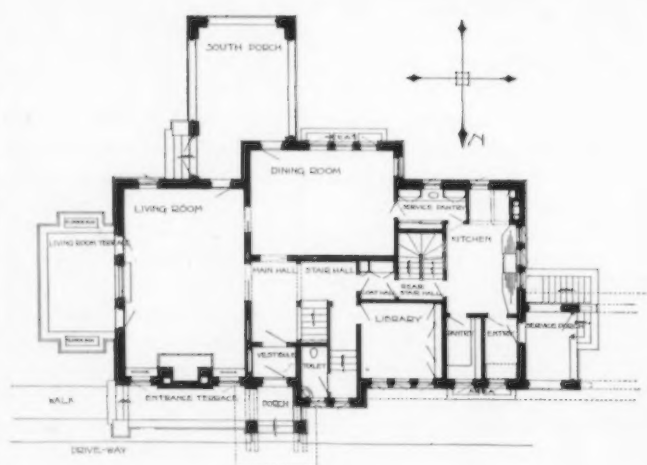
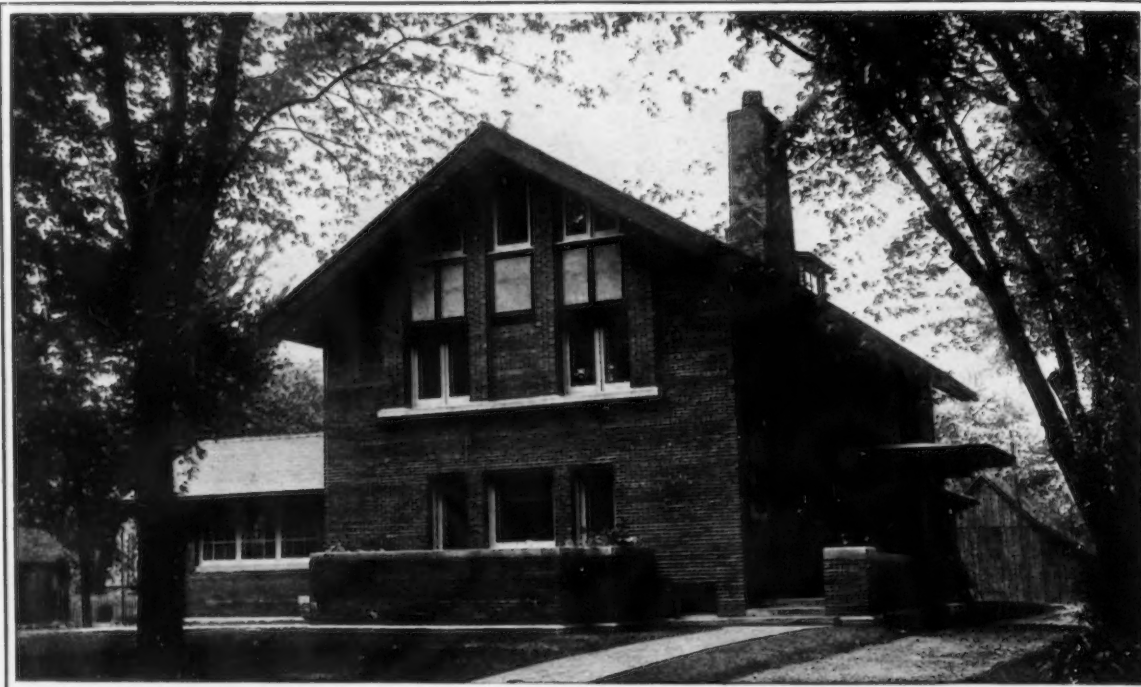
materials and labor, so many possible variations in design and selection of material which affect cost, that every architect must depend to a large extent in casting his horoscopes for brick-loving clients upon his own past experience.

To say that a frame house may be redesigned without essential change of plan and built of brick for an additional cost of ten to twenty per cent over the cost of frame construction, does not give the owner of limited means quite as definite advice as he would like to have. Yet it is not wise for the architect to be more definite until working plans for either the brick or frame house have been prepared and the contractor's estimate obtained, showing more definitely the difference in cost involved in the proposed change of material.

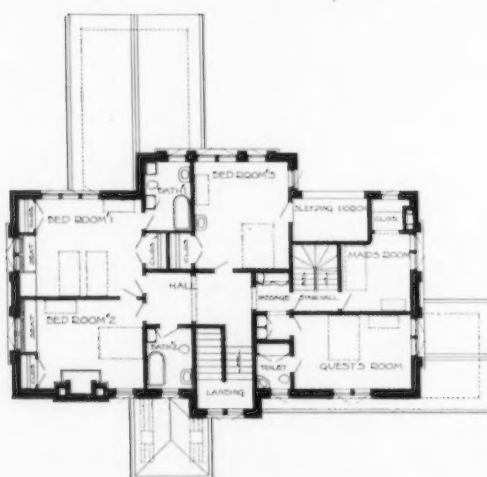
In the vicinity of Chicago the cost of building identically the same house varies considerably. As between the "North Shore" and the western suburbs it averages at least ten per cent more in the former section. The writer knows of cases where during the past year good frame and stucco houses with shingled roofs cost as high as 22 cents per cubic foot on the North Shore, whereas during the year previous a very thoroughly constructed and finished solid brick house with shingle tile roof was built in a nearby *western* suburb at 24 cents per cubic foot.

It would seem that the longer the architect specializes in residence work, the more difficult it becomes for his clients to pin him down to definite advance statements as to cost. Clients whose appropriations are limited usually *want* and ultimately *pay* for buildings costing from thirty to fifty per cent more than the amount of the appropriation to which they limit the architect when authorizing him to prepare preliminary sketches. They dare not be frank.

We are often asked if the cost of building in brick is likely to grow materially less in the future. It would



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

HOUSE AT SHELBYVILLE, ILL.

SPENCER & POWERS,
ARCHITECTS.



House at Shelbyville, Ill., walls faced with red Danville shale brick in pale red mortar. Roofs, Cloverport shingle tile. Stucco, creamy buff, float finish. Outside rough timber work, etc., stained a warm brown. Terrace and porch floors of Welsh quarry tiles. The boldly projecting living porch connects living and dining room without darkening them. The unusual treatment of the gables avoids the usual baldness of the all brick gable and provides for large windows lighting bedroom, store room, and billiard room.

seem that the only hope in that direction is in the increased skill and efficiency of average brick masons and in the growth of their numbers. In the meantime the cost of frame construction will continue gradually to advance, until it so nearly approximates that of brick that the latter will be chosen regardless of the small difference in cost, because of its many superior qualities.

In small or remote places it is easier for an architect to superintend the construction of a frame than a brick house.

In many small towns the carpenter is often the only competent builder capable of reading plans and building the special designs of the city architect without serious mistakes, his business requiring that he himself be an architect to the extent of drawing plans for the average small house of his town.

The work of the village mason is mostly confined (at least in the middle West) to the building of basement walls and chimneys, and more often than not he depends upon the carpenter for the correct laying out of his work, being incapable of reading plans correctly himself. His methods are sometimes so wofully slack, that taken together with his other shortcomings and those of the village carpenter, the architect and owner are indeed relieved when he is finally off the job.

A little personal experience in connection with the building of a brick house last year in the Illinois "Corn Belt" has its laughable side, the humor of which did not particularly appeal to us at the time. There being no clerk of the works on the job the stone water table was laid at grade and the walls run up to first floor between

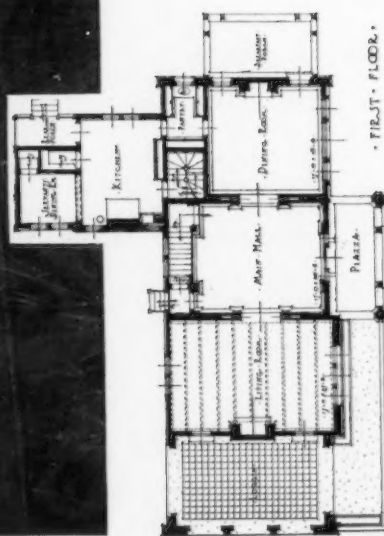
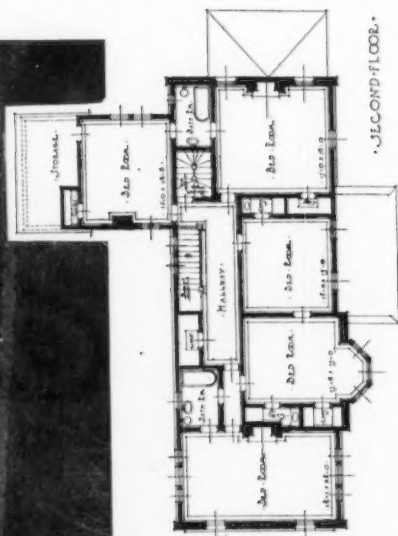
visits. Owing to lack of "team-work" between carpenter and mason (the former having studied the plans nights until on the verge of nervous prostration) the joists were found all set about five inches too high, brick courses out of level, and water table two inches "off" between front and one side. On cross examination the carpenter was proven an accessory to the crime as to joists through failure to check up on mason. The mason was found guilty as to water table, having interpreted the specification-clause "accurate measuring and leveling instruments" to mean the following: Fifty feet of rubber hose, two men to operate ends of same around corners of building, and one large tin cup with which to replenish water escaping from hose, said hose being very old and leaky. A sensitive "leveling instrument" indeed when full and stationary, but its accurate reading was nullified owing to said leaks and diverted attention of operator while trying to offset leakage with water from the tin cup.

While no amount of close personal supervision will secure first-class workmanship from careless or incompetent mechanics, the employment of a clerk of the works, at least until completion of the mason's work would have resulted in a much more satisfactory job — with a saving of worry and trouble to both owner and architects. The architect or his superintendent seldom sees the work often enough.

When bad brickwork has been run up in his absence, he can only order it torn down and relaid, and relaid brickwork is seldom as satisfactory as that which is done properly as it progresses.



HOUSE AT
GARDEN CITY, LONG ISLAND, N. Y.
Aymar Embury, 2d, Architect.
Walls of Hollow Tile with Stucco Finish.



Legal Hints for Architects.—Part V.

WILLIAM L. ROWMAN, C.E., LL.B.

DUTY TO CONTRACTOR.

IN HIS whole-heartedness and sincerity in serving his employer, the architect sometimes fails to remember that by superintending the construction work he has assumed certain obligations to the contractor. These obligations vary somewhat in the different jurisdictions of the United States on account of conflicting legal interpretations of the building contract clauses, but in general the principles involving the architect are almost universal. While as the interpreter of the plans and specifications he is generally considered the agent of the owner, yet he is sometimes considered the mutual agent of both the owner and the contractor, and sometimes an arbitrator. Under any of these relations he can only demand or require what the plans and specifications actually specify and not what he thinks they should call for or what he may have intended they should require. The language used in the specifications should be given its usual and ordinary meaning save when it is used in a well-known technical sense. Where the architect is a mutual agent or an arbitrator he practically assumes a judicial function and his determinations and decisions which often are binding and final upon the parties should be governed by the same principles of honor, integrity, and justice which we expect and demand from our judges on the bench. Since many of the questions upon which he may be called to determine may be due to his own mistakes, omissions, or negligence, and since he may by a decision in favor of the contractor lose not only his compensation but any future employment, the architect occupies a unique and questionable position in the possible legal relations among men. There are many who do not believe that any person should be put in such a position where there is a premium upon wrong doing and deciding wrongly, and this is especially so where there is no possibility of punishment for such action, the architect not being reponsible at law either for want of skill nor even for negligence when acting in this capacity.

Regarding the making of estimates and the issuing of certificates the architect is almost universally considered as an arbiter whose decision is binding and final except where bad faith, fraud, or collusion can be proven by a preponderance of legal evidence. This raises the question as to what is sufficient evidence to enable a contractor or owner to be relieved from the architect's certificate. While there is some difference of opinion on the subject, there seems to be a general consensus that an arbitrary or unreasonable refusal to issue an estimate or certificate is of itself fraud. So a refusal upon grounds known to be fictitious or without foundation; where a mistake in estimating or of opinion is so absurd or ridiculous as to be palpable; where stone furnished in strict accordance with the specifications have rusted to some extent; where there is collusion with the owner, or in other words, obeying the owner's orders not to issue estimates or certificates; where the contractor has not done something not required by his contract; where

there has been a substantial performance of the contract; refusals on such grounds or under such circumstances have each been held to amount to fraud on the part of the architect and to entitle the contractor to recover for his work without the production of such architect's certificate. On the other hand, bad faith or fraud has been held not to be shown where a certificate has been given when as a matter of fact the work specified in the contract lacked a few dollars of completion; nor where defects are discovered in the work after the certificate has been given; nor where the quality of the work is poor unless the judgment of the architect was not fairly exercised; nor by mere incompetency or negligence of the architect unless the same is very gross.

Where payment is conditional upon the architect's certificate and where there is a requirement that the architect *shall make* a monthly estimate, nothing should prevent the issuing of some kind of an estimate if any work is done, even if the owner's orders are to the contrary. I have known of instances where without any contract provision the architect has arbitrarily held up his certificate until the time within which mechanics liens could be filed had passed; or where because of some trivial dispute involving a few hundred dollars, a payment of thousands is arbitrarily held up although the owner might have other thousands in retains in his possession; personally this seems to be nothing short of blackmail in the way that it is sometimes worked. Before leaving this subject there is one such striking example of what an architect ought not to do that I shall give the facts in some detail so that it may help others should they ever become involved in a similar situation.

A contractor entered one of those cut-throat contracts perpetrated by municipalities and others, with ancient specifications, as loose and ambiguous as could be imagined and containing all the saving clauses conceivable. By the contract itself, the work was to be done under the direction of a certain official and to his satisfaction, while the general conditions of the specifications put it under the direction and to the satisfaction, approval, and acceptance of the *owner* and the architects. The contract made the decision of the official and the architects final as to the true meaning and construction of the drawings and specifications; the specifications required all questions of that nature to be referred to the architects, whose decision had to be accepted as final and conclusive and without appeal. According to previous decisions in the jurisdiction such a clause made the architect's power absolute. Work was started with an inspector of the owner and another of the architects daily upon the ground; the architects personally made weekly and the officials about monthly visits. Certain materials were rejected and others required; work was taken out and replaced until the contractor had in his opinion completed the entire undertaking. The contract further provided that payments

should *only* be made upon the architects' certificate, and that on or about the first of the month an estimate should be made by the architects "of the relative value of the work done and materials furnished and accepted, *to be judged of by them*," and also that as each building was completed and accepted *by the owner* a certificate for the payment of the retained money on that building should be made. Throughout the work the monthly estimates and certificates were made and paid until the last two months. After all the many thousand feet of finished flooring had been laid and varnished, presumably to every one's satisfaction, the official made one of his monthly visits, and, although there was no requirement, that the pine flooring should be matched nor that only a certain length butt was essential, he raised a row and refused to accept the flooring because of its failure to please his hitherto unknown personal taste in these regards. At the same time the window glass was very severely criticized and any light with the slightest or most minute air bubble, etc., was ordered rejected. Other minor items were ordered changed. Although the contractor during the construction had already sunk a couple of thousand dollars to correct mistakes of the architects or their clerk of the work, and to supply omissions in the specifications, and in his general view of making the job one of his best for purposes of advertisement, yet he decided to assume the additional burden of reasonably satisfying the personal tastes of the official. Many hundred feet of flooring was replaced, thousands of lights changed and all of the minor items corrected, although the furnishers of the various materials were ready and willing to stand by them as being within the specifications. Time for an estimate came, then for a payment, but neither was forthcoming although a large amount was due for other classes of work completed, such as mill work, hardware, plumbing, etc., regarding which there never was any question raised then or thereafter. Another month of work passed with no estimate nor payment. By this time the contractor had completed his undertaking and done all he could reasonably to comply with the official's complaints. The inspector for the owner, a practical builder, then made his certificate of good and substantial completion of the entire contract.

From the first complaint of the official the architect in charge completely reversed himself, and where he had previously expressed himself as well pleased with the work and issued certificates upon practically all the particular work complained of, thereafter he would do nothing except follow blindly each and every order of the official.

Acting under such instructions the architects refused to issue certificates either for the monthly work or for buildings completed, one of which was even occupied. Regarding the completed buildings previous to the last, both the official and the architects failed to note that the retains were payable upon the *owner's* acceptance and not the *official's*. Certainly such acceptance was shown by the certificate of the owner's inspector, and this in addition required the architect to act in this regard. Again, during the work some extra work was done which was ordered so that the contractor could be paid for it. The contract required payment for such work to be made the same as for the regular work, but the architect failed to issue his estimates or certificates and of course no pay-

ments were made. Although the personal tastes of the official only affected two of five separate buildings and involved at an exorbitant estimate not more than \$1,000, and although the owner had \$14,000 in retained percentages beyond the \$6,000 actually due, yet the architects absolutely refused to do anything for the contractor on their own part, nor could the official be persuaded to help the contractor out with the needed money long past due under the express terms of the contract.

When the architect in charge was informed that his action amounted to a fraud upon the contractor he was truly indignant, and as an excuse for the refusal to do anything stated that he was acting under orders of the official, thus admitting the fraud in his own statement of denial. As other excuses for his attitude he stated that he was employed and paid by the official and not by the contractor, and that therefore he did not have to consider any suggestions or demands of the contractor; also that if the official wanted to pay, he could do so without their certificate. Of course the official was to blame for the situation, which was chiefly caused by his deliberately ignoring the terms of the contract and specifications and by his lack of building experience. The architects, however, by issuing their estimates and certificates as required by the contract, could and should have done their duty by the contractor and at the same time upheld their own professional ethics and manhood, if it might be so called. The real trouble with them was that the official had future building operations in his hands which the architects felt they could secure and control provided they did nothing to cross him, so that for the sake of future work they sacrificed their professional honor.

The position which an architect should assume in such circumstances has been well expressed in the following judicial statement: "I cannot come to the conclusion that the architect's sole duty was to protect the interests of the building owner against the builder. I think that . . . he owed a duty to the builder as well as to the building owner. The effect of his agreeing to act . . . was that he undertook the duty towards both parties of holding the scales even and deciding between them impartially as to the amount payable by the one to the other."

The example last given may be cited also as an instance of the failure of some architects to recognize a well established legal and equitable doctrine that the architect is charged with the duty of accepting or rejecting material or workmanship as soon as there is a reasonable opportunity for inspection of it. Where the architect or his inspector is daily on the job a reasonable time in which to decide such matters is limited to a reasonable time for proper inspection. Failure to object, condemn or reject material or workmanship seasonably and in the manner contemplated by the usual contract operates as a waiver of defects in regard thereto and as an irrevocable acceptance of such material or workmanship as satisfactory under the contract. Why should this not be so where the architect can order any material away and secure the dismissal of any man on the job whose work or personality is not acceptable to him? Most of the courts of the country hold that this is an equitable and just doctrine, because the owner stipulates for inspection and approval as the building is constructed and for a representative of his own to compel compliance

with the contract at every step, and if the architect fails to perform his duty the loss should fall upon the owner and not be shifted to the builder, who may have been lured into the belief that his workmanship and material were satisfactory until too late to remedy defects therein without serious loss. Architects then should be guided in their superintending work by the theory that "when the architect is present and has knowledge of the character of the material being placed in the improvement without objection at the time, his conduct is an approval of the same which cannot be revised by him to the prejudice of the contractor."

The experienced architect is now saying to himself, how about the contract clause that no certificate save the final is conclusive nor an acceptance of improper materials or defective work? Yankee-like my answer is, What are improper materials and what is defective work? Improper is defined as "not suitable," "not fitting to the design or end." Thus where $\frac{7}{8}$ inch pine flooring is called for by the specifications, and the contractor, logically assuming that for a public charity building trade $1\frac{3}{16}$ inch and not special $\frac{7}{8}$ inch is meant, orders the former, which is duly inspected, accepted, and laid, certainly no one could honestly hold that such flooring could be rejected as not suitable or as unfit for the building. Similarly, where long leaf flooring is put in a building under the same circumstances, short leaf being called for by the specifications, would any fair-minded architect desire to go on record that such was an improper material?

Defective work may be defined as that work which is "wanting in something," "incomplete," or "imperfect." This phrase must however be considered in connection with the requirement as to the character or workmanship demanded. The type or class of building must also help determine this question. Where the contract merely required a "workmanlike manner," it was held to require only sufficient skill to conform to the received rules of the art and so as to *proximately* effect the desired end. "Plain, substantial, and workmanlike manner" implies that the work shall be done perfectly *for the character of the job* contemplated; while a "good and workmanlike manner" requires the work to be done in a manner generally considered skilful *by those capable of correctly judging such work*. The common failing in this regard is a neglect to consider the kind, character, and cost of the building involved; for example, a first class floor for a stable should not be required to equal a first class floor for a mansion on Fifth avenue. While there is some conflict of authority as to what extent the clause regarding acceptance permits the rejection of incorporated work, it would seem that when it is considered to be consistent with the usual progress estimate or payment clause, such a clause does not prevent the progress estimates or certificates from being conclusive as an acceptance of the estimated work and as to patent defects therein. Such seems to be the usual and reasonable construction of the ordinary building contract. Of course the situation is entirely different where there are latent defects not discoverable with reasonable inspection or where the contractor purposely and intentionally attempts to and does deceive the architect or his inspector. In such cases it is proper and the duty of the architect

upon discovering such defects to order its removal and correction. Again, this rule will not cover those cases where the contract has special clauses regarding what kind of work may be ordered removed or replaced even after incorporation, but such special requirements will be very strictly interpreted, hence the architect must be assured of their significance before making or taking any serious step thereunder.

There is one other duty of the architect towards the contractor that needs some consideration, and that is the ordering of alterations, additions, or extras. While these words are to many synonymous, yet in some jurisdictions they have entirely different legal meanings: alterations being actual changes made in the specifications which ordinarily are not covered by any requirement of the contract or specification as to the method of ordering, etc.; additions being work necessarily required in the performance of the contract, not intentionally omitted from the contract and not reasonably implied therein, and yet evidently necessary to the completion of the work; and extra work being work outside of and entirely independent of the contract and not required in its performance. The building contract does not always consider these distinctions in the jurisdictions that make the distinctions, and this often causes the architect trouble not only with the contractor but with the owner. The architect's authority in this regard will be later considered, but here it should be noted that to be on the safe side and to properly protect the contractor the architect should give a written order for everything that he orders, whether it be alteration, additional, or extra work, otherwise the contractor may do the work and later find that since the architect only ordered it orally he cannot recover or get his pay for the same. There seems to be a marked policy on the part of some architects to issue as few written orders as possible, but they should realize that in so doing they are acting dishonestly. If the contractor is entitled to compensation beyond his contract price a written order should be given, and if on the other hand the architect considers the work within the contract he should give a writing anyway, stating that to be his opinion and ordering said work to be done pursuant to such opinion. Then if occasion arises both parties have a memorandum of the circumstance which may prevent serious conflict of oral testimony.

Summarized briefly, the architect's chief duties to the contractor demand correct and honest estimates or certificates of payment at the time called for by the contract, based upon his personal architectural knowledge and experience; such superintendence and inspection as the work requires to obtain determinations regarding the materials and workmanship before or at the time of incorporation into the improvement; and written orders or instructions regarding alterations, additions, or extras, especially where there is a difference of opinion on the part of the contractor. These considerations show that the architect's duty to the contractor is largely determined by particular clauses in the building contract, and hence if serious conflict becomes imminent the architect should at once seek good legal advice, otherwise he may not only seriously involve the owner, financially embarrass the contractor, but become personally responsible for his unauthorized and unjustifiable conduct.

Plate Illustrations—Description.

CHAPEL, ST. LOUIS, MO. PLATES 141-143. In planning this "community" Chapel, the architects were privileged to work in conjunction with the Mother Superior of this order lately driven out of France. The brick upon the exterior is a mottled gray taken at random from "culls," giving a resultant tinge of the gray monotone with suggestions of yellow and pink. It is laid up in natural colored mortar with wide weathered joints horizontally and close water-struck joints vertically. The trimmings are of buff Bedford stone. Upon the interior the floor is of pink Tennessee marble with honed surface and in general effect unites with the slightly yellowish natural rough plaster to give warmth to the otherwise undecorated nave and side aisles. The gallery rail in wrought iron is painted a dark green, flecked with a lighter green, while the ceiling rafters of the gallery are of dull dark oak. The benches are replicas of those in the Mother Chapel at Paris and the glass is especially designed, undecorated and baked like the French grisaille. The chancel rail of wrought iron is flanked by the two "Ambons" of marble inlaid with Tiffany glass mosaic. The altar is also of marble inlaid with glass mosaic and illuminated with vertical mirror angle reflectors concealed behind the pilasters. In the rear are the sacristies fitted with vestment cases and the working rooms for the Sisters. The building cost when completed \$23,000 and contains 87,204 cubic feet reckoned from the ground only, as the foundations were in place and the new work began with the first floor. The price per cubic foot was approximately 26.4 cents.

THE FIELD HOUSE AND GYMNASIUM, CHICAGO, ILL. PLATES 149, 150. The Hamlin Park improvement is one of several small parks recently established in the Lincoln Park district. It is the largest and most complete, providing all the facilities and appurtenances which have been accepted as a part of an institution of this kind in its latest development. The total area of the park is approximately ten acres. In addition to the large athletic field is provided a separate outdoor gymnasium for men, women, and children, indoor gymnasiums, one for each sex, an assembly hall, club rooms, a branch of the Chicago Public Library, locker rooms, toilet rooms, shower baths, and an outdoor natatorium with accessories which are capable of accommodating the maximum capacity of 5,000 per day. This institution is operated on an entirely free basis, — lockers, towels, bathing suits, soap, etc., being furnished free to each applicant and thoroughly laundered after each use. The assembly hall is given for free use upon written application. The buildings are entirely of pressed brick and terra cotta both inside and out, the exterior being of a dull red wire cut brick and the interior of a smooth impervious yellow brick. The roofs are of green glazed tile. The total cost was \$100,000.

THE NEW ASHLAND SCHOOL, ST. LOUIS, MO. PLATE 151. The building is faced with a mixture of ordinary hard and red brick in appropriate mortar color, and roofed with slate. The site contains 138,884 square feet and the building covers an area of 22,700 square feet. Deducting the area of the building and the planted sec-

tion in front, the playground contains 58,376 square feet, or 48.64 square feet per pupil. The normal capacity of the building is 1,200 pupils. Upon the interior the finish is of oak and the floor of maple. The main corridor on each floor is 14 feet wide and the secondary corridors 8 feet wide, all receiving direct outside light. In order to prevent loss of time by the pupils during school hours, a limited number of toilet fixtures are placed on each floor in the four toilet rooms. Each class room is 24 feet by 31 feet 6 inches, unilaterally lighted, and provided with wardrobes 5 feet 3 inches by 16 feet. The building is heated and ventilated by the steam plenum system. Fireproof construction is used throughout with the exception of the roof. The basement story is 11 feet 8 inches in height, and the first and second stories 12 feet; the windows being carried directly to the ceiling. The cost of the building complete, ready for equipment of furniture and including the improvement of the site, was \$189,519, making the cost per cubic foot 16.2 cents and the cost per room \$7,897.

THE NEW FRANKLIN SCHOOL, ST. LOUIS, MO. PLATE 152. The site, 61,624 square feet, being restricted in area and located in the city district, made it advisable to erect a three-story building. The plan covers an area of 30,613 square feet, which leaves 25,449 square feet for playground and planting area or 19.6 square feet per pupil. The location of this building with reference to the surrounding schools made it advisable to provide several features not ordinarily included, namely, shop capacity for a double manual training and domestic science center and an auditorium. The building has been arranged for both day and night sessions. Upon the interior the finish is of oak and the floors of maple. Four stairways are provided, two of which lead from the ground floor directly to the third floor and are enclosed in wire glass and metal partitions from top to bottom. The auditorium is 60 feet by 90 feet and provided with galleries opening on the first floor corridor, which permits of its use independent or with the school. The room is well lighted and capable of seating 1,300 persons. The building is fitted with fixtures for electric lighting, with synchronizing clock and bell system, and house telephones intercommunicating between the principal rooms. The boiler and fuel rooms, ash pit, etc., are located just outside of the walls of the main building, well lighted and accessible. The building is heated and ventilated by the steam plenum system, and of fireproof construction throughout. The basement is 14 feet 3 inches in height, and the first, second, and third stories 13 feet 3 inches high, all in the clear, the windows being carried directly to the ceiling. The cost of the building complete ready for furniture and including the improvement of the site was \$209,987, making the cost per cubic foot 17.1 cents and per room \$8,076.

THE NEW MERAMEC SCHOOL, ST. LOUIS, MO. PLATE 153. The building is faced with ordinary hard and red brick in appropriate mortar color and the roof laid in tile. Deducting the building area of 12,536 square feet, and the planted section in front, the total playground approximates 48,251 square feet, or 87.5 square feet per

pupil. The plan is arranged so that the east and west wings may be lengthened, providing four additional class rooms. The normal capacity of the building is 550 pupils. Upon the interior the finish is of birch with maple flooring. The main corridor on each floor is 14 feet wide and the secondary corridors 8 feet wide, all receiving direct outside light. The nine class rooms are 23 feet by 31 feet, unilaterally lighted and provided with wardrobes 5 feet 3 inches by 16 feet. The building is heated and ventilated by the steam plenum system, the air being washed before passing to the heaters and fans.

Thirty cubic feet of air per minute is supplied to each pupil, the apparatus being designed to furnish from eight to nine changes of air per hour in the class rooms and four changes per hour in the corridors and play rooms. Foot warmers will be installed in the ground floor corridor. The building is of fireproof construction throughout with the exception of the roof. The basement story is 11 feet 8 inches in height, and the first and second stories 12 feet, the windows being carried directly to the ceiling. The cost of building complete was \$119,989, making the cost per cubic foot 18 cents and the cost per room \$7,999.

Editorial Comment and Miscellany.

WORKINGMEN'S HOMES IN BERLIN.

THOMAS A. EDISON in a recent interview for the *New York Times*, referring to the home life of the working people in Germany as compared with those in America, draws quite a contrast between Berlin and New York City. He says that the buildings which the workmen of Berlin occupy are not "tenements" similar to those which disgrace and deface New York's crowded districts, but are fine apartment houses, beautifully constructed, perfectly supplied with light and air, safe against fire and made up of large and conveniently arranged rooms. Each story has its iron balconies, generally filled with flowers. In America, however, flowers upon the balconies are violations of the law for they might obstruct their use as fire escapes. In the German city the flowers do not imperil human life, since the buildings are constructed of good materials and really fireproof. Mr. Edi-

son cites the rentals as extremely moderate, proportioned to the incomes of the men who live in them far more reasonably than are the rentals of the much less desirable apartments which men of the same walks of life must use in American cities. There is no overcrowding—absolutely none. He claims that the laws in the United States, providing that each resident of such a building shall have certain air space, that all apartments shall have certain light and ventilation, and that certain precautions against fire loss shall be taken both in management and construction, are not strictly carried out. In Germany, however, law means law and is enforced.

A HOME FOR ART, NEW YORK CITY.

A NEW National Academy Association has been formed in New York City with a prospective fund of \$1,500,000. The aim of the society is to erect a new

and suitable building on an eligible site for the allied arts. The members of the new organization include the Academy of Design, the Water Color Society and Water Color Club, the American Institute of Architects and the Architectural League, the Sculpture Society, Municipal Art Society, Mural Painters and Illustrators. The Mayor, the members of the Chamber of Commerce, the directors of libraries, and members of the Metropolitan Museum of Art have been invited to co-operate. All the great exhibitions will be held in the new building, which will also contain a permanent exhibition of American

Art in all its branches. This is the first tangible result of the many efforts to provide an art center for the metropolis.

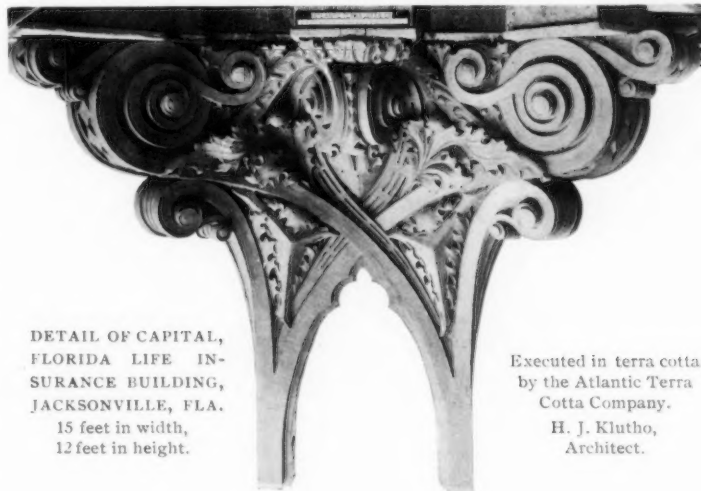
NEW HOSPITAL AT PARIS.

THE De La Nouvelle Pitie Hospital, Paris, which was begun in 1905 and recently completed, consists of a series of buildings for medical and surgical treatment, together with a maternity hospital. The

buildings cover a plot of ground approximately 600,000 square feet, built of brick and connected throughout by an underground passage. Each building has a separate underground passage connecting with the kitchen through which meal trucks pass to the various lifts fitted in all parts of the hospital. The hospital has about 40,000 square feet of courts and gardens. It can accommodate 1,000 in-patients and cost approximately \$2400 per bed. The architect of this group of buildings was M. Justin Rochet.

"BROADWAY GARDEN" TO REPLACE MADISON SQUARE GARDEN.

A NEW "Madison Square Garden" will be erected in Times Square, occupying the block on Broadway between 47th and 48th streets, and extending back to within a hundred feet of Eighth avenue. The main



DETAIL OF CAPITAL,
FLORIDA LIFE IN-
SURANCE BUILDING,
JACKSONVILLE, FLA.
15 feet in width,
12 feet in height.

Executed in terra cotta
by the Atlantic Terra
Cotta Company.
H. J. Klutho,
Architect.



DETAIL BY WHEELER & STERN, ARCHITECTS.
The New Jersey Terra Cotta Company, Makers.

entrance to the Garden will be on Broadway with the remainder of the frontage occupied by stores. An office building six stories in height with a tower 200 feet high is planned for the 48th street corner. The 47th street side will have a theater on the ground floor, with a seating capacity of 1,100 and a stage 30 feet deep. Two other theaters and a covered winter garden will occupy the roof. The arena, which will seat about 20,000 persons, will be 250 feet long and 156 feet wide. Including the galleries it will furnish 160,000 square feet for exhibition purposes. On both sides will be tiers of seats, the ends being occupied by boxes. Underneath the arena will be another one of exactly the same size, available for show purposes but designed primarily for storage. A large rathskeller will be built in the basement and a café on the main floor. The plans have been prepared by Walker & Gillette and will cost approximately \$1,500,000.

SUMMER HOME FOR OUR PRESIDENTS.

THE proposed home for the Nation's Capitol is on Mount Falcon, fifteen miles from Denver, Colorado, in the front range of the Rockies. All the details of the plan have been perfected and ground has been broken for this castle of gray granite. The design of the building calls for a picturesque style wholly in keeping with the natural scenery. James B. Benedict, architect, has prepared the plans.

BUILDING OPERATIONS FOR OCTOBER.

FORTY-FOUR representative building centers throughout the country, as officially reported to and compiled by *The American Contractor*, New York, show

an aggregate loss of eight per cent for the month of October, as compared with the same month of 1910. The past ten months of the present year show a decline of five per cent, as compared with the same months of the past year. Gains of over twenty-five per cent for October were made at: Buffalo, 49 per cent; Chattanooga, 88; Dallas, 61; Grand Rapids, 113; Hartford, 35; Manchester, 68; Memphis, 27; Milwaukee, 36; Pittsburg, 111; St. Louis, 36; Scranton, 58; Toledo, 26; Worcester, 81.

NEW BRITISH MUSEUM WING.

THE exterior of the supplementary buildings to the British Museum, which are to be known as the King Edward VII. Galleries, has been completed, and presents a magnificent front at the approach from Torrington Square. The interior finishings and decorations will require another year to execute. At each end of the façade rises a tower, 90 feet high, ornamented with statuary. The new thoroughfare on which the galleries are located is to be known as British Museum avenue.

The land and buildings cost \$2,000,000.

HOTEL DIEU AT LYONS, FRANCE.

THIS charming old building will soon be demolished and in its place will be erected a large general hospital.

The new institution will accommodate some fifteen hundred patients and cover a site of

forty acres. It will form a part of the university located in that city.

ACCORDING to the report of the State superintendent of public instruction, in the five years ended with June 30, 1911, the valuation of school property in Kansas increased an even one hundred per cent or from



DETAIL BY TOLEDANO & WOGAN, ARCHITECTS.
Executed by The Northwestern Terra Cotta Company.



DETAIL FOR MANUAL TRAINING SCHOOL.
Executed by South Amboy Terra Cotta Company.
E. F. Guilbert, Architect.

\$5,000,000 to \$10,000,000. During this period two hundred and thirty high schools have been established with six hundred additional teachers. The growing demand for agricultural knowledge is shown by the fact that practically all rural schools offer elementary instruction, and a practical course is offered in ninety-six high schools.

THE fire losses in the United States during the year 1910, according to the National Board of Fire Underwriters, was \$214,003,300. In addition to the enormous destruction of property hundreds of lives were sacrificed. In America the per capita loss is \$2.51 while that in the cities of the six leading European countries amounts to 33 cents. This is attributable to the difference in the responsibility of the inhabitants in the various countries; the difference in the construction of the buildings, and the laws governing materials and conditions together with their enforcement.

THE grand jury at the international art exposition, Rome, has awarded the grand prizes for the best sculpture work. Considerable regret is felt that the American artists were excluded from the competition because of the closing of the American pavilion by the American Commissioner before the final award had been made. It is conceded that if the American works had been judged John Singer Sargent would have received a grand prize.

AT THE invitation of the architectural school of Harvard University and the Massachusetts Institute of Technology, H. P. Berlage, the Amsterdam architect, will lecture this coming winter on "The Foundation and Development of Architecture." The ability



THE RAILWAY V. M. C. A. BUILDING, RICHMOND, VA.
Faced with brick made by the Ironclay Brick Company.
Wilson, Harris & Richards, Architects.



DETAIL BY GILLESPIE & CARREL, ARCHITECTS.
New York Architectural Terra Cotta Company, Makers.



DETAIL FOR POST OFFICE.
Executed by Conkling-Armstrong Terra Cotta Company.
J. Knox Taylor, Architect.

and sincerity of Mr. Berlage has already won for him wide recognition in Germany, Austria, and Switzerland, as well as in his own country.

ON THE site of the log cabin at Hodgenville, Ky., in which Abraham Lincoln was born, an imposing granite building—a memorial to the war President—was dedicated November 9th and accepted for the Nation by President Taft.

IN GENERAL.

Herbert G. Jory has opened an office for the practice of architecture in the Munsey Bldg., Baltimore, Md. Manufacturers' samples and catalogues solicited.

H. E. Weeks and F. R. Walker have formed a copartnership for the practice of architecture under the firm name Walker & Weeks, with offices at 1900 Euclid avenue, Cleveland, Ohio. Manufacturers' samples and catalogues solicited.

The architectural firm of Trunk & Heim, St. Joseph, Mo., has been dissolved. Benjamin W. Trunk and William Gordon have formed a copartnership under the firm name of Trunk & Gordon, with offices in the Donnell Court Bldg.

J. Earl Henry has recently been appointed architect and engineer for the Board of Education, Louisville, Ky., with offices in the Administration building. Manufacturers' samples and catalogues solicited.

The architectural firm of Walker & Hazzard has been dissolved. Hobart A. Walker will continue the practice of architecture at 437 Fifth avenue, New York City, and Elliott W. Hazzard will be associated with the firm of Hazzard, Erskine & Blagdon at the same address.

The Fred A. Jones Building Co.,

of Dallas and Houston, Texas, announces the opening of a permanent branch office at 1009-1011 Empire Building, Birmingham, Ala. Carroll Blake, formerly general superintendent for the company at Houston, will be the manager for the Birmingham branch, and Carl Symonds, who has been associated with Mr. Blake for the past ten years, will become the manager of the Houston office.

The facing tile used in the Andrews Hotel at Minneapolis, illustrated on this page, were 4 x 4 x 12 3/4 inches in size. The tile cost a little more than forty per cent less than a first quality of brick, and the saving in laying approximates nearly forty per cent more, depending somewhat upon the character of the building and the shade of tile selected for use.

The brick used in the house at Chestnut Hill, Pa., by Brockie & Hastings, architects, illustrated in the October issue of THE BRICKBUILDER, Plate 129, was furnished by Fiske & Co., Inc.

A meeting of the Gargoyles was held recently at the Hof-Brau House, New York City. At this gathering of young architects Professor Vining of Columbia University gave a talk on Business Psychology and Mr. Pierre Laird related his experiences abroad.

The Ohio Mining & Manufacturing Co., 96 Wall street, New York City, are looking for established parties to represent them in the following southern cities: Charleston, Memphis, Birmingham, New Orleans, and Houston.

The Columbus Brick & Terra Cotta Co. furnished the materials for: the Union Pacific Headquarters, Omaha, Neb., Jarvis Hunt, architect; the Southern Pacific Headquarters,

Houston, Texas, Jarvis Hunt, architect; the Wheeler residence, Indianapolis, Ind., Price and McLanahan, architects; the Rike-Kumler Building, Dayton, Ohio,

Schenk & Williams, architects; the Uihlein residence, Milwaukee, Wis.; the addition to the McCormick Building, Chicago, Ill., Holabird & Roche, architects; and the Otis Building, Chicago, Ill., Holabird & Roche, architects.

Tables for Calculating Sizes of Steam Pipes for Low Pressure Heating, by Isaac Chaimovitsch, M. E., Price \$2.00. Chicago: Domestic Engineering.

Three million dollars is being expended for the construction of a great market place at the foot of Thirty-Sixth and Thirty-Seventh streets, Brooklyn. The improvement will include the erection of one hundred and sixty-four buildings, a great market square, and two public piers, on one of which will be built a recreation shed. Other features will be a public bath, a fire engine, truck house, and a police station.

A twenty-story hotel will soon be erected at Dallas, Texas. The exterior will be treated in red velvet brick with stone trimmings and cost \$1,000,000. Barnett, Hayes & Barnett of St. Louis are the architects.

Mr. William L. Bowman has removed his offices from 38 Park Row to 60 Wall street, New York City.

The building for the new School of Fine Arts, Pittsburg, has been erected in connection with the Carnegie Technical School. In the center of the edifice is a large atrium provided as a general concourse for the students. The top story is given over to painting studios, while the basement contains a large modeling room.



ANDREWS HOTEL, MINNEAPOLIS, MINN.
Faced with rose tinted tile made by the Twin City Brick Company.
H. L. Stevens & Company, Architects.



SCHWEITER BUILDING, WICHITA, KAN.
Built of gray Astrakhan Brick furnished by the Columbus Brick & Terra Cotta Co.
Richards, McCarty & Bulford, Architects.

Madison Square, which in its day held some of New York's finest dwellings, is fast developing into a mecca



DETAIL BY J. B. BENEDICT, ARCHITECT.
American Terra Cotta & Ceramic Co., Makers.

of office and loft buildings.

It was one of the élite sections of the city for many years. With its high stoop houses and big square windows, the place had a homelike appearance. Every house had its silver name plate, its silver knocker and

its silver door knobs, resembling a square in London.

During the last few years, however, the old houses have been coming down in twos and threes, so that only a few remain of the many stately, handsome residences

that surrounded the little patch of greensward ten or fifteen years ago.

Frank A. Bourne has been appointed to study Copley Square and other parks and squares in Boston with a view of protecting the city's interests in the arrangements for the new subway as well as facilitating the traffic and improving them in an artistic manner.

On the first Monday in May, June, July, and August, 1912, four county seat towns in southwest Kansas will be moved to other locations on the new Santa Fé line. Santa Fé, New Ulysses, Hugoton, and Richfield will change locations, the distances varying from six to twenty-five miles.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., November 2, 1911.

SEALED PROPOSALS will be received at this office until 3 o'clock P.M. on the 14th day of December, 1911, and then opened for the reconstruction, etc. (including plumbing), of the U. S. Marine Hospital, at Stapleton, Staten Island, New York. The work consists of the construction of two three-story wings having a total ground area of 1,150 square feet, reconstructing the entire interior of the old building and adding a fourth story to a portion thereof. Drawings and specifications may be obtained from the Custodian of the building, or at this office at the discretion of the Supervising Architect.

JAMES KNOX TAYLOR, *Supervising Architect.*

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By JOSEPH NASH

Interiors and exteriors of the old halls, abbeys, courts, etc., with their old furniture, carved woodwork, staircases and interior decoration. Depicting the most characteristic features of Domestic Architecture of the Tudor Age. Façades, portals, gates, etc. Fireplaces, mantels, carved ceilings, etc., with a great richness of detail.

Over hundred and four plates, thirty-two of which are reproduced in all the beauty of the full colors of the originals. The plates are not alone wonderful reproductions of actual houses of the period, but they preserve all the "atmosphere" and charm that made these halls such delightful homes.

NEW EDITION. One volume, size 10 x 13½ inches. Bound in full canvas. \$10.00

THE BRUNO HESSLING COMPANY

64 East 12th Street, NEW YORK, N. Y.

The architectural firm of Kennerly & Iredell, St. Louis, Mo., has dissolved partnership. Mr. Kennerly will continue the practice of architecture at St. Louis, and Mr. Iredell will open an office at 722 Congress avenue, Austin, Texas. Manufacturers' samples and catalogues solicited.

The mural decorations in the Boston Public Library will soon be enriched by another of the Sargent decorations, the first of which was completed some time ago. Mr. Sargent is at present working on the scheme for the long side of his room, the subject being the "Sermon on the Mount."

"TAPESTRY" BRICK

TRADE MARK—REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of
THE BRICKBUILDER

Garage at Cleveland, Ohio Plate 154

FRANK B. MEADE, Architect

FISKE & COMPANY INC
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Suffolk County Court House, Boston. George A. Clough, Esq., Architect.

Registry of Deeds, Salem, Mass. C. H. Blackall, Esq., Architect.

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THE BRICKBUILDER'S ANNUAL ARCHITECTURAL TERRA COTTA COMPETITION.

Problem: A Store and Loft Building from Four to Six Stories High.

FIRST PRIZE, \$500.

SECOND PRIZE, \$250.

THIRD PRIZE, \$150.

FOURTH PRIZE, \$100.

HONORABLE MENTIONS.

COMPETITION CLOSING AT 5 P. M., MONDAY, JANUARY 8, 1912.

PROGRAM.

THE problem is a COMBINATION STORE AND LOFT BUILDING FROM FOUR TO SIX STORIES HIGH. The site is assumed to be in the middle of a city block located in the shopping district. The land is level and has 50 feet frontage and is 100 feet deep. The building is to cover the entire lot on first floor only, with suitable provision for natural lighting of rear portion of this floor. The lighting of other floors is left to the designer. The basement, first and second floors are to be occupied by a concern doing a retail business. Since the character of the business may influence the design it is suggested that the store portion of the building be treated either for the sale of pianos, jewelry, millinery, men's furnishings, boots and shoes, furs, sporting goods, or some similar line of business. The plans above the second story are to be of the loft type.

The exterior of the building is to be designed entirely in architectural terra cotta, and it is suggested that at least portions of the walls be treated in color. It is further suggested that provision be made in the design for the placing of signs.

The object of this competition is to encourage a study of the use of architectural terra cotta in this particular type of building. There is no limit set on the cost, but the design must be suitable for the character of the building and for the material in which it is to be executed.

The following points will be considered in judging the designs:—

A—The general excellence of the design, its adaptability to the prescribed material and character of the building under consideration.

B—The excellence of the first-story plan which, in addition to an attractive frontal treatment, must provide an entrance to a hallway in which will be located an elevator and staircase.

DRAWING REQUIRED. (There is to be but one.)

On a sheet of unmounted white paper measuring exactly 35 inches by 26 inches, with strong border lines drawn one inch from edges, giving a space inside the border lines of 33 inches by 24 inches, show:

The front elevation drawn at a scale of four feet to the inch.

The first-floor plan and a typical loft plan drawn at a scale of 16 feet to the inch.

A sufficient number of exterior details drawn at a scale of one-half inch to the foot to completely fill the remainder of the sheet.

The details should indicate in a general way the jointing of the terra cotta and the sizes of the blocks.

The color scheme is to be indicated either by a key or a series of notes printed on the sheet.

All drawings are to be in black ink without wash or color, except that the walls on the plans and in the sections may be blacked-in or cross-hatched.

Graphic scales are to be shown.

Each drawing is to be signed by a nom de plume, or device, and accompanying same is to be a sealed envelope with the nom de plume on the exterior and containing the true name and address of the contestant.

The drawing is to be delivered flat, or rolled (packaged so as to prevent creasing or crushing) at the office of THE BRICKBUILDER, 85 Water street, Boston, Mass., charges prepaid, on or before January 8, 1912.

Drawings submitted in this competition must be at the owners' risk from the time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The prize drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others. Those who wish their drawings returned may have them by enclosing in the sealed envelopes containing their names, ten cents in stamps.

The designs will be judged by three or five well-known members of the architectural profession.

For the design placed first in this competition there will be given a prize of \$500.

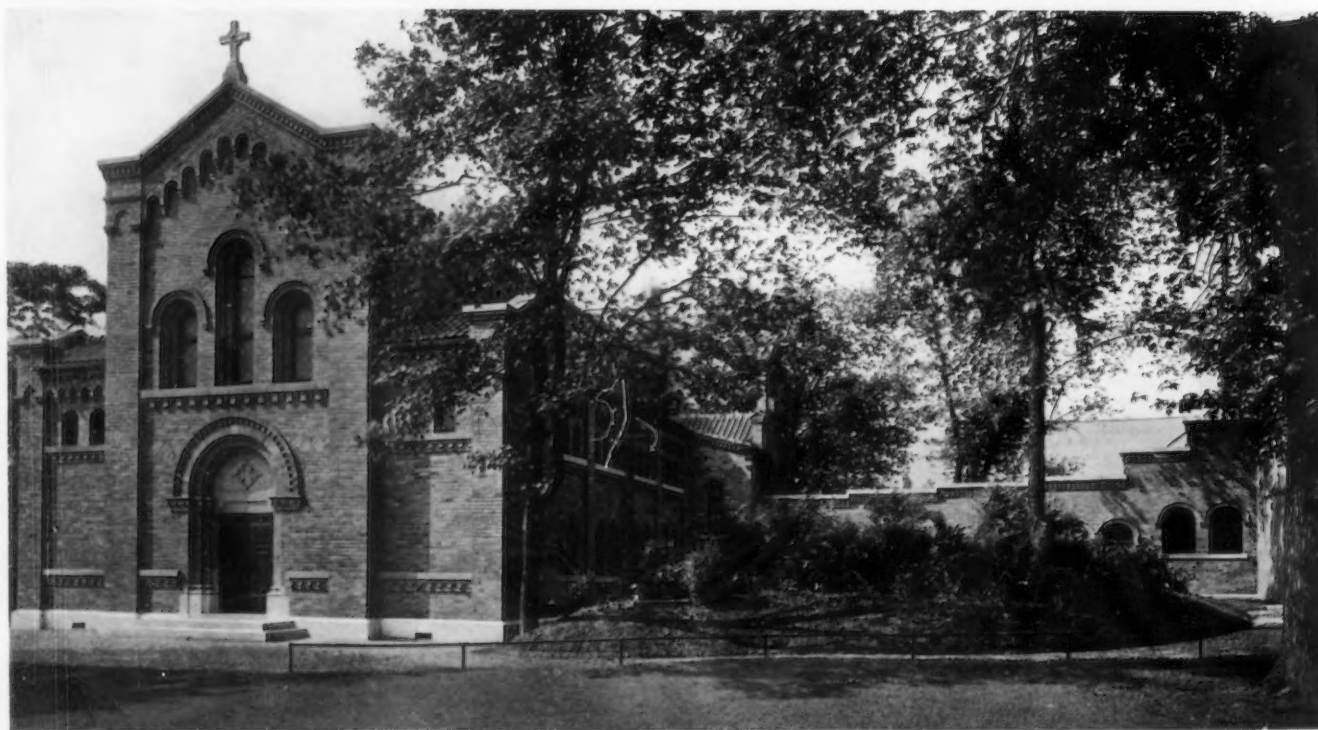
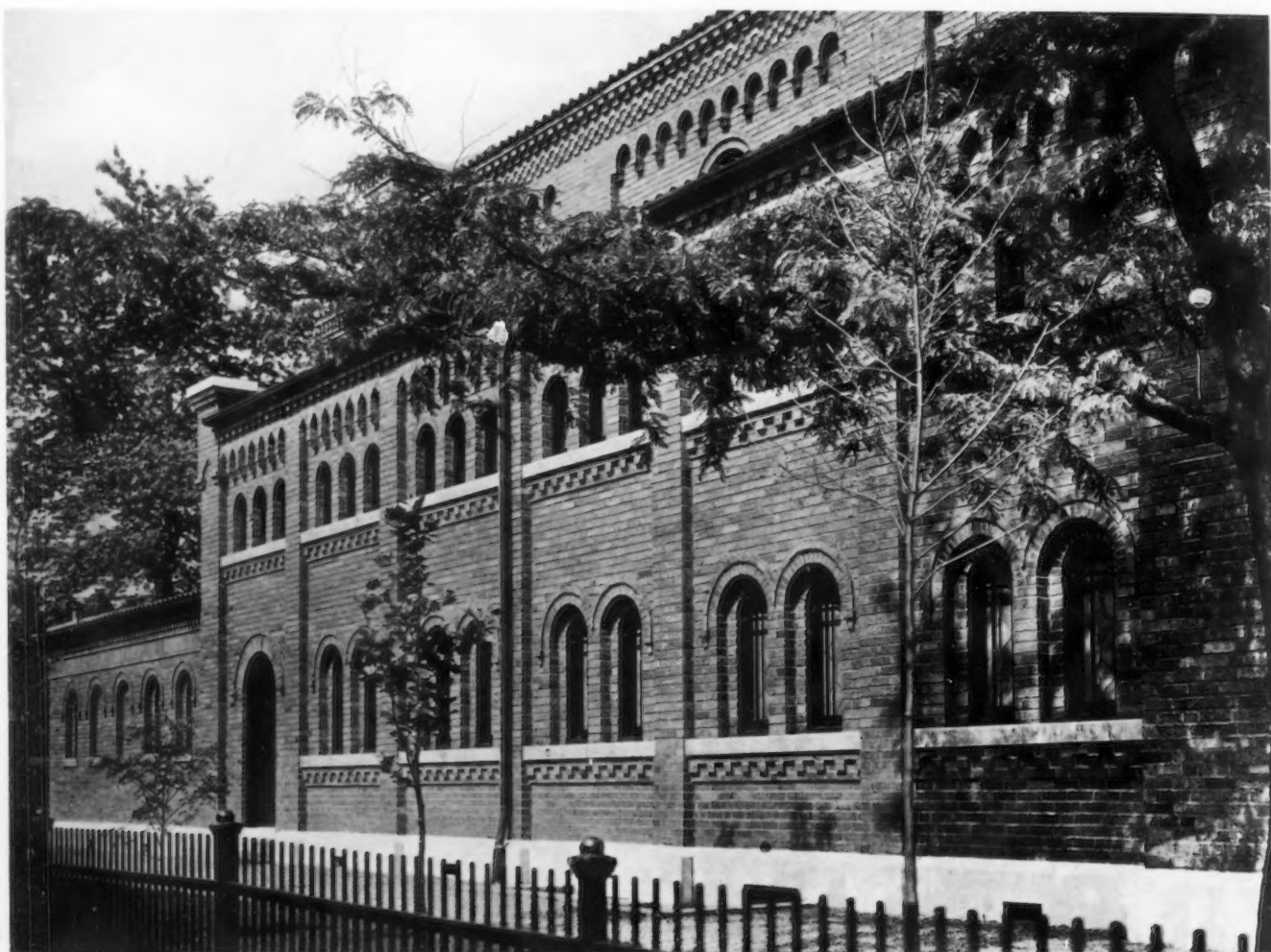
For the design placed second a prize of \$250.

For the design placed third a prize of \$150.

For the design placed fourth a prize of \$100.

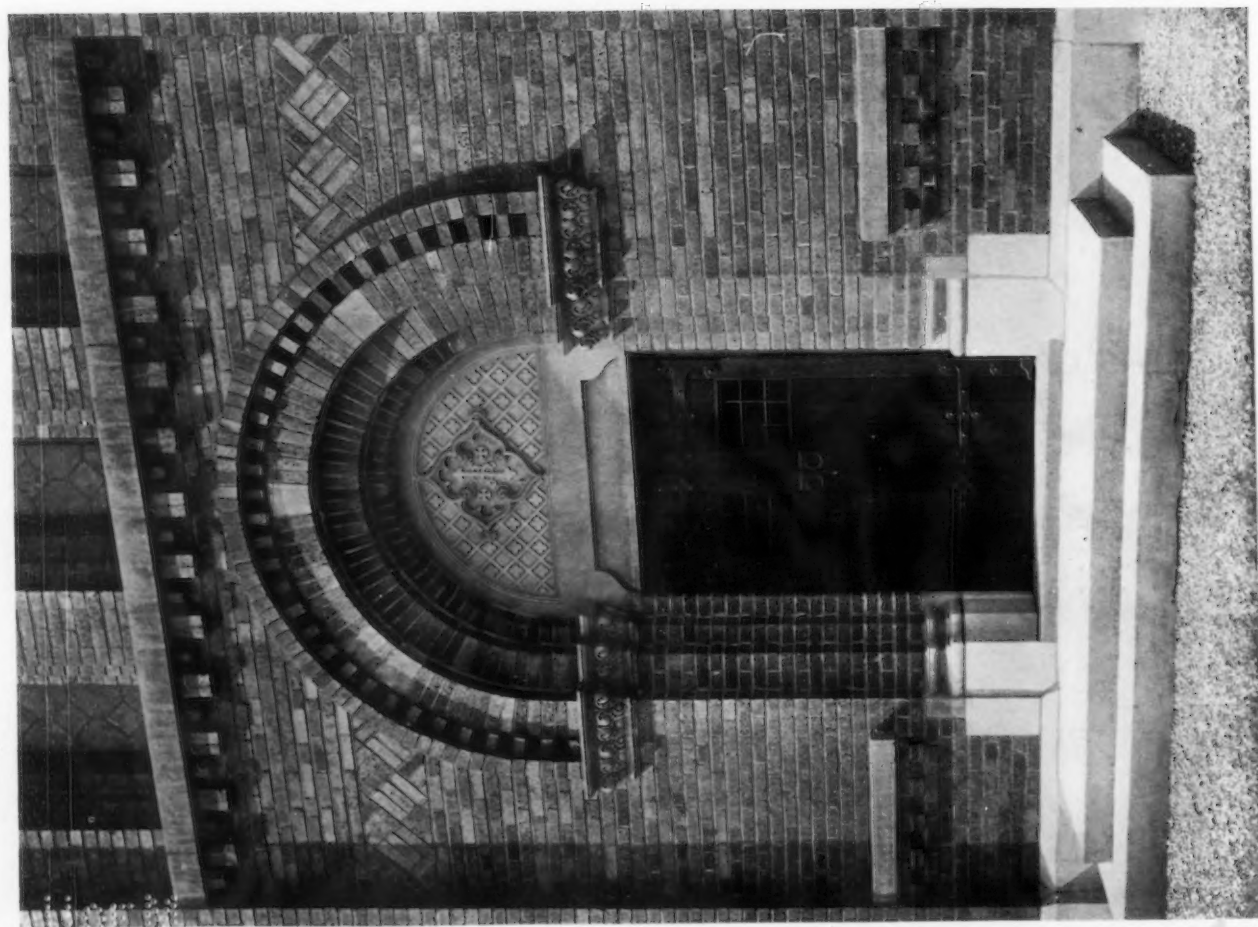
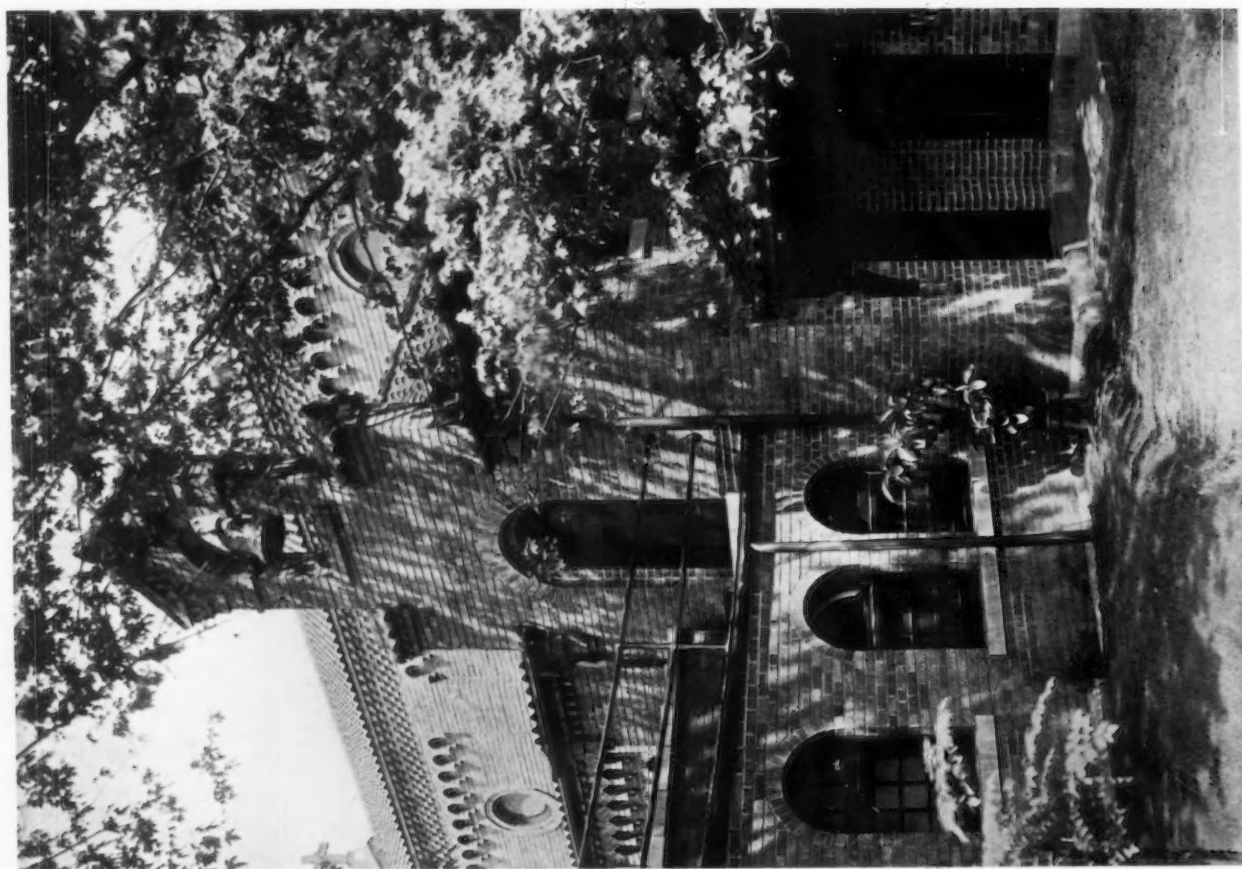
The manufacturers of architectural terra cotta are patrons of this competition.
The competition is open to every one.

1000



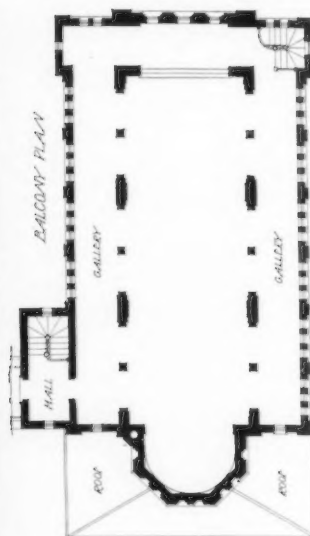
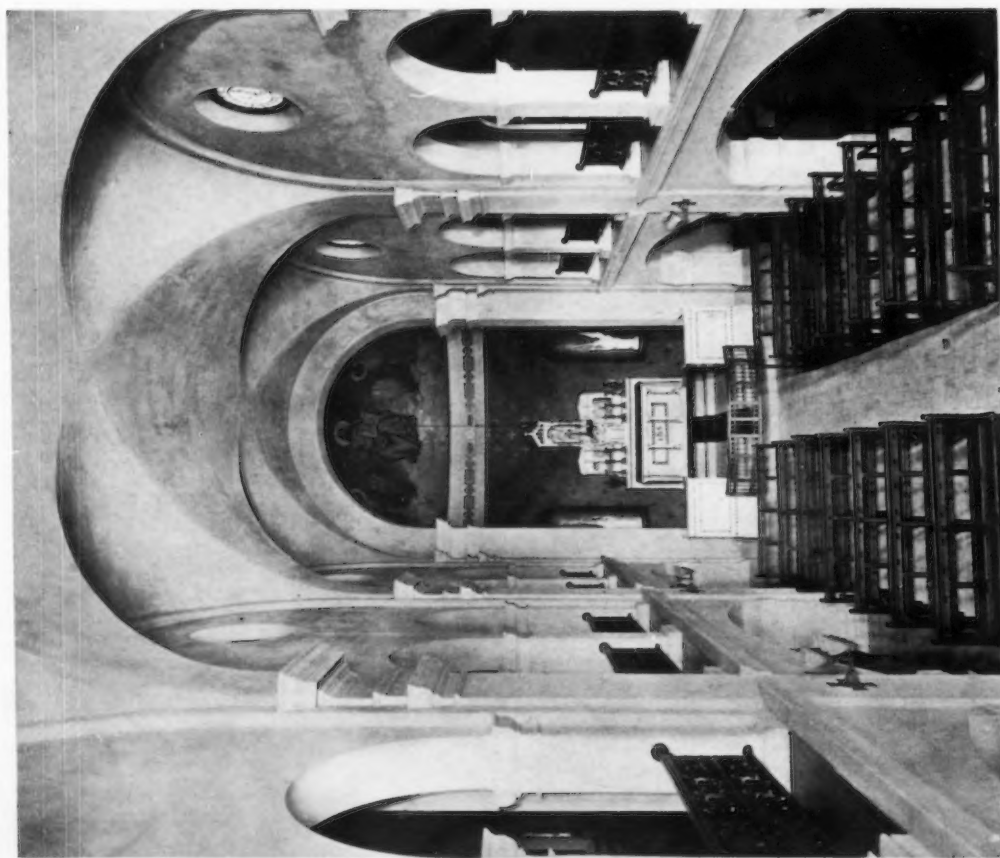
CHAPEL FOR THE LITTLE HELPERS OF THE HOLY SOULS, ST. LOUIS, MO.
MAURAN & RUSSELL, ARCHITECTS.

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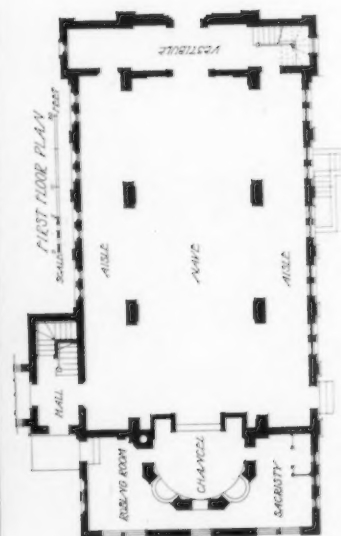


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MAURAN & RUSSELL ARCHITECTS.

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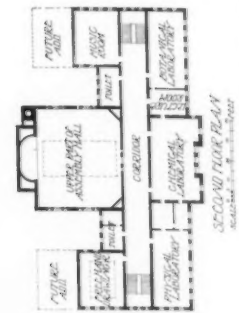


CHAPEL FOR THE LITTLE HELPERS
OF THE HOLY SOULS,
ST. LOUIS, MO.
MAURAN & RUSSELL, ARCHITECTS.

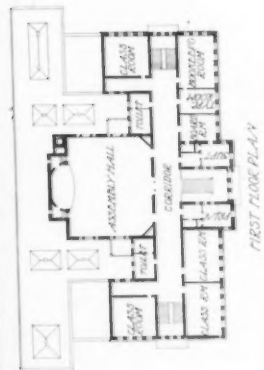


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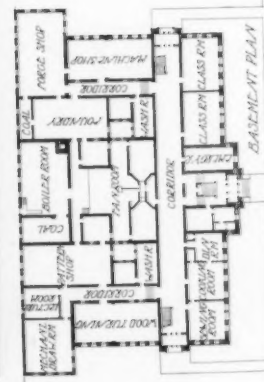
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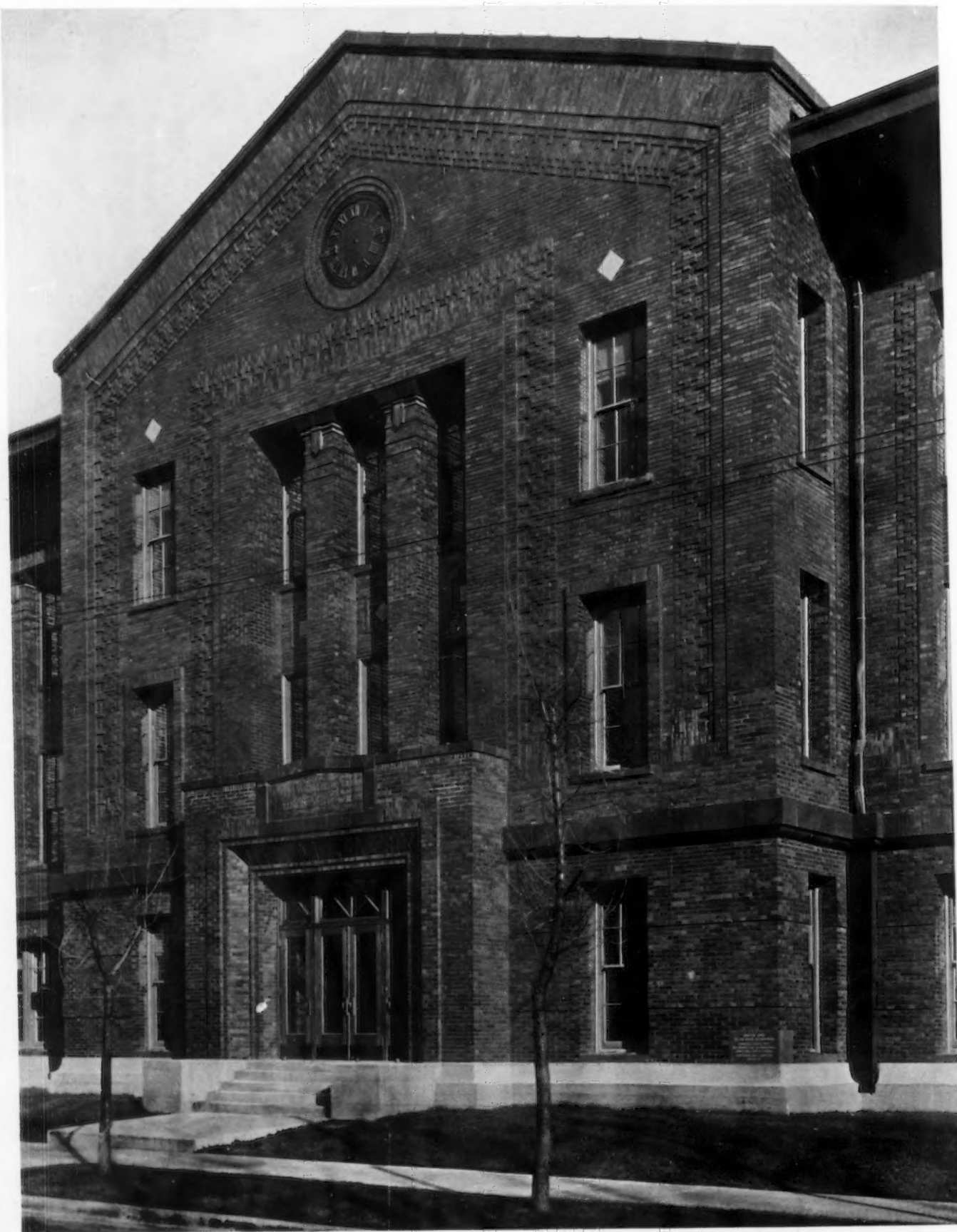
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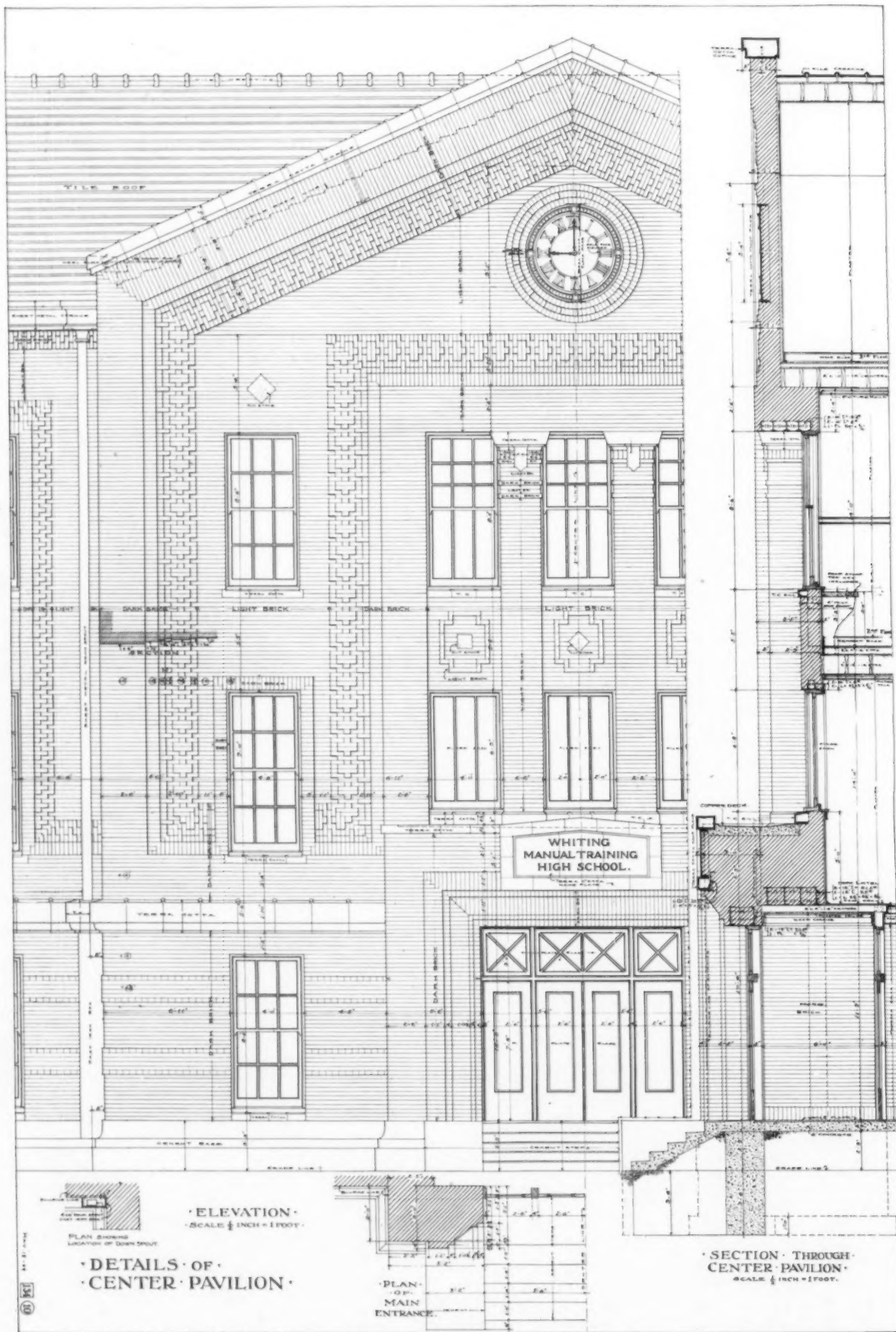
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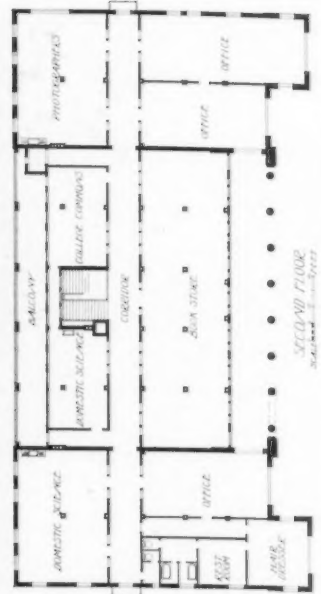
MANUAL TRAINING HIGH SCHOOL, WHITING, IND.
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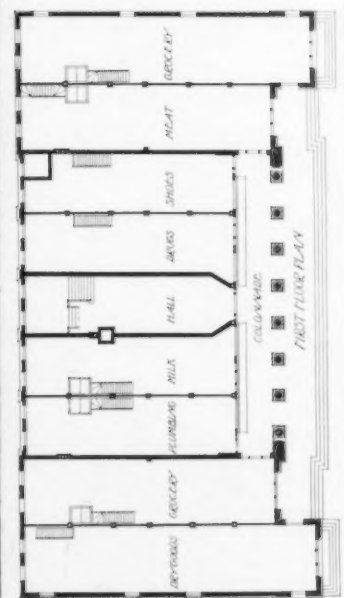
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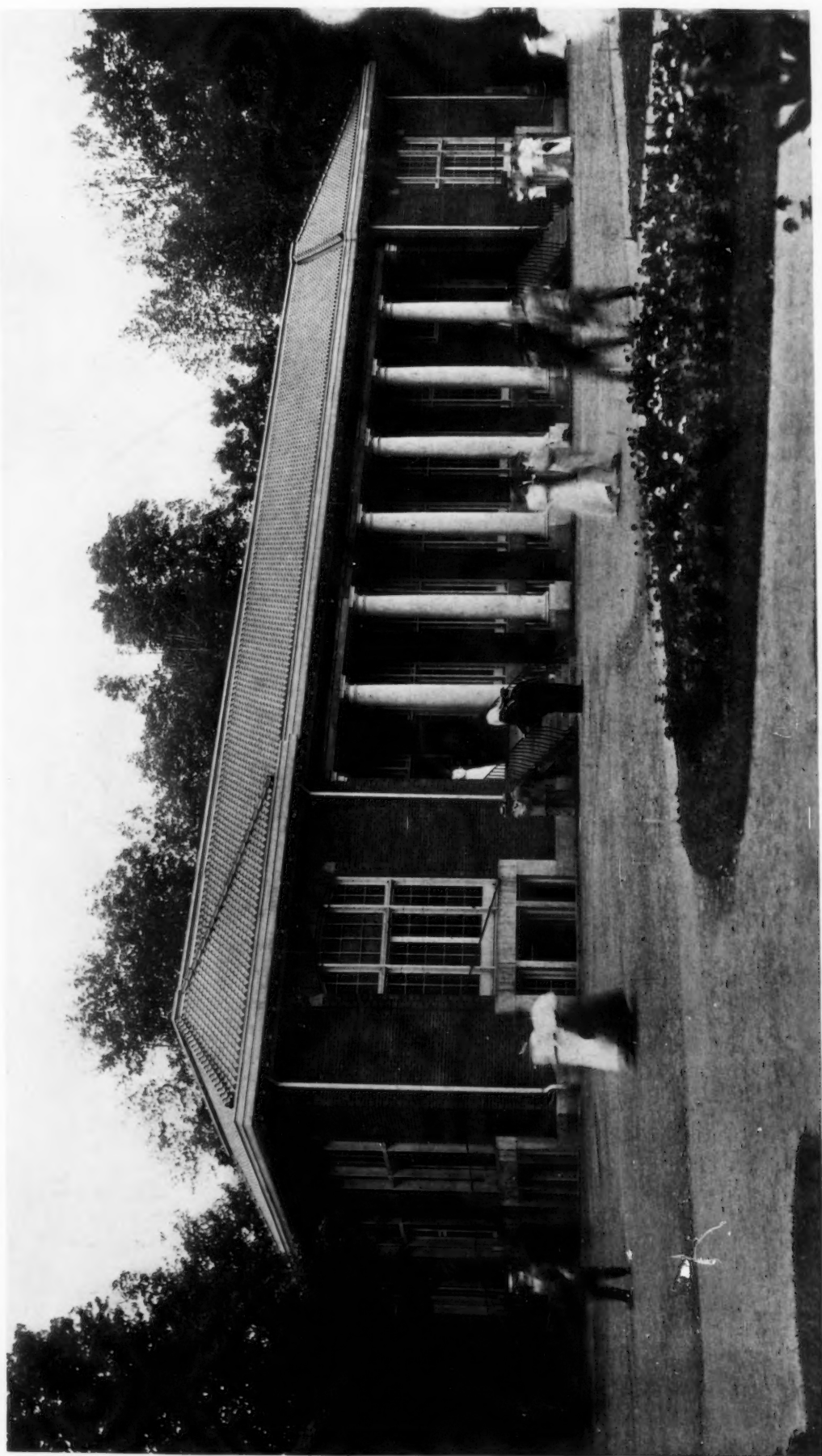


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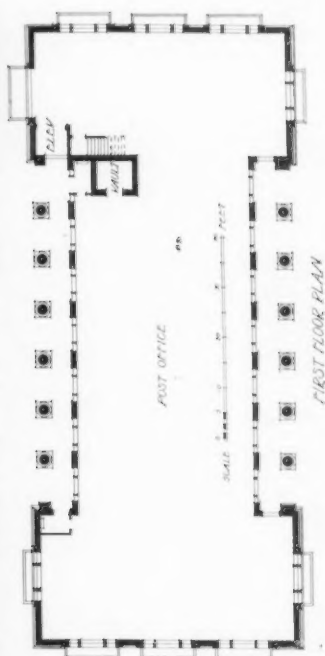


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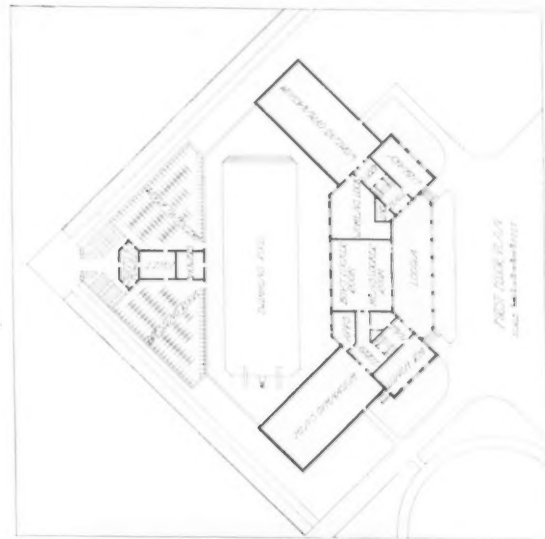




POST OFFICE BUILDING,
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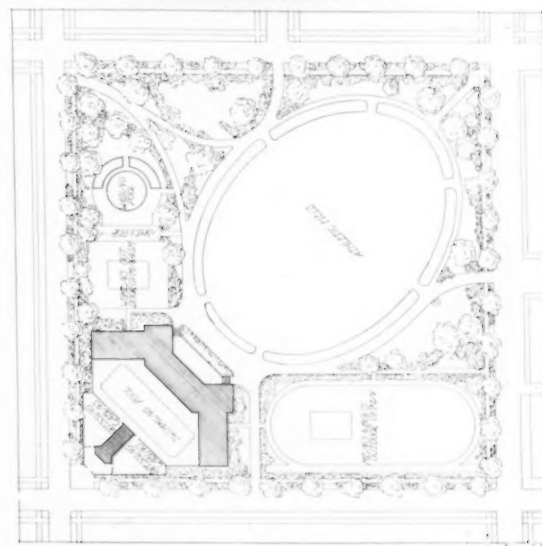


FIELD HOUSE AND GYMNASIUM.



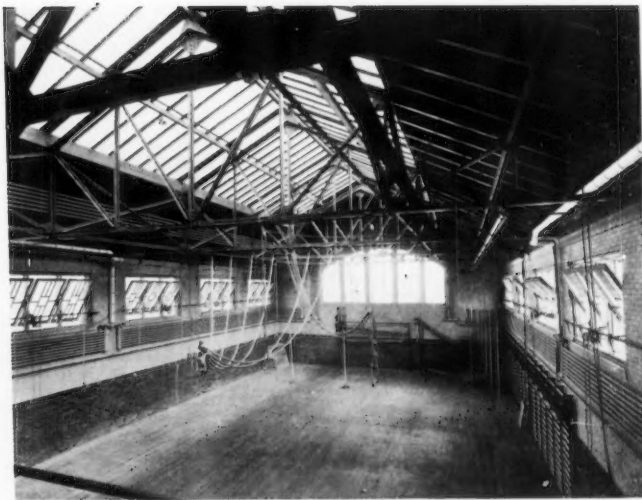
THE FIELD HOUSE AND GYMNASIUM BUILDING,
AT
HANNIBAL HAMLIN PARK, CHICAGO.

PERKINS & HAMILTON, ARCHITECTS.



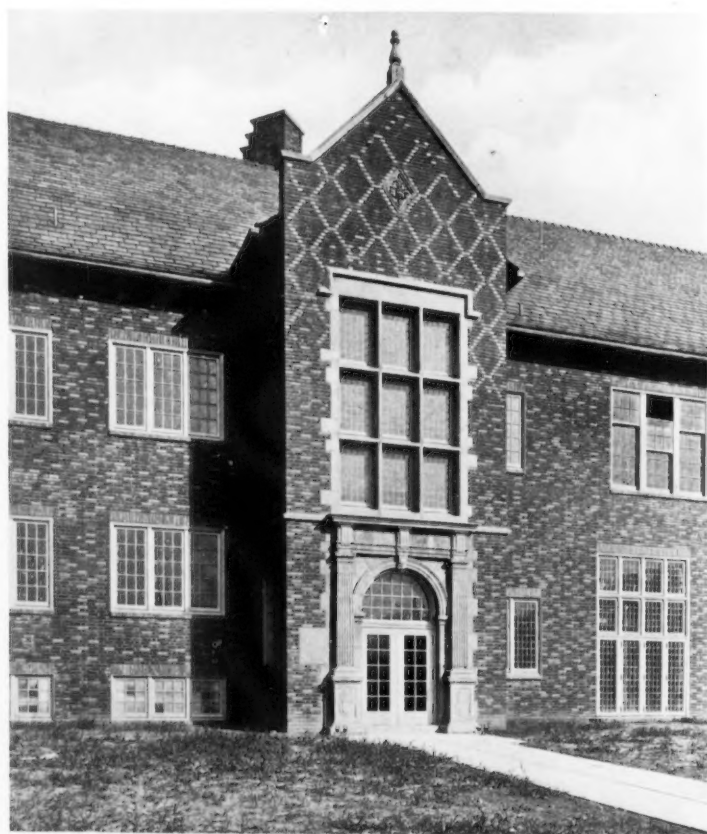
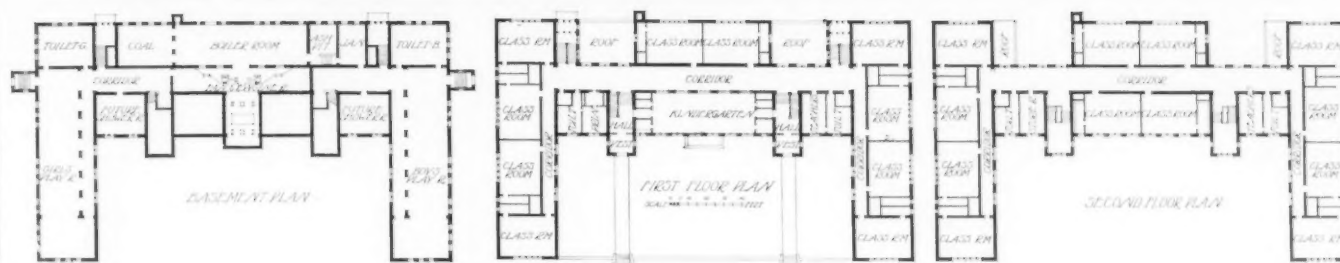
GENERAL GROUND PLAN.

M70U

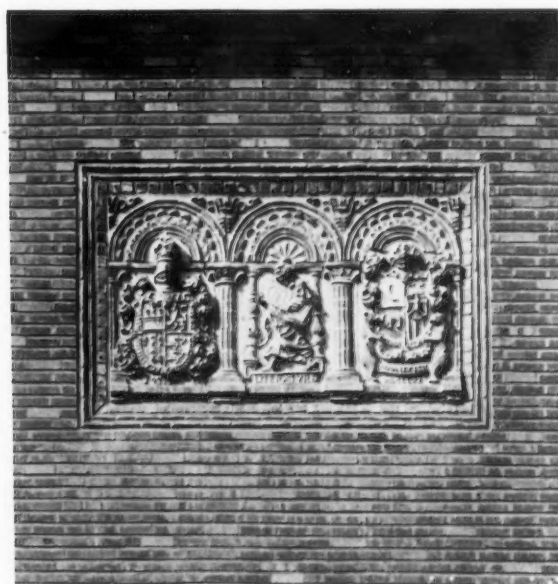


THE FIELD HOUSE AND GYMNASIUM BUILDING AT HANNIBAL HAMLIN PARK, CHICAGO.
PERKINS & HAMILTON, ARCHITECTS.

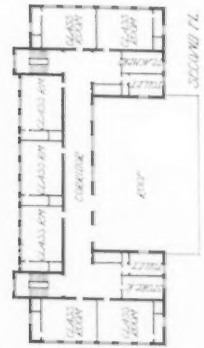
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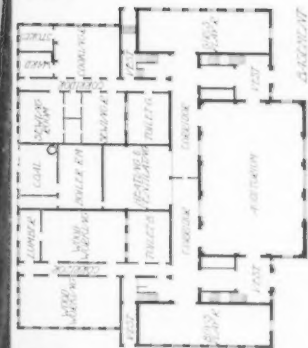
THE NEW ASHLAND SCHOOL
ST. LOUIS, MO.
WILLIAM B. ITTNER, ARCHITECT.



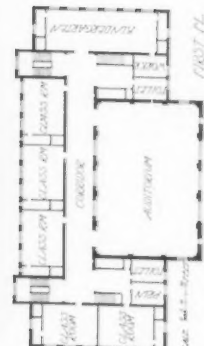
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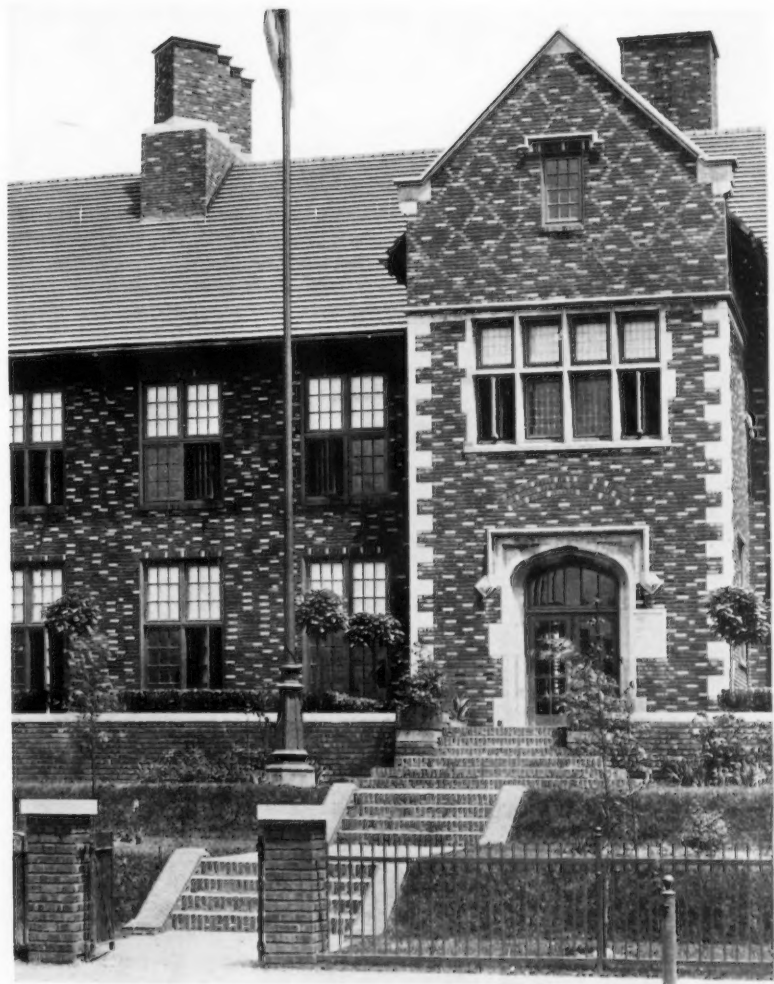
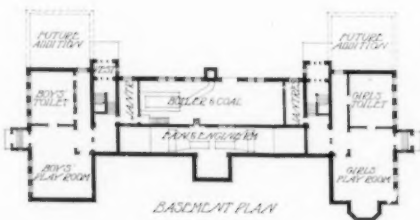
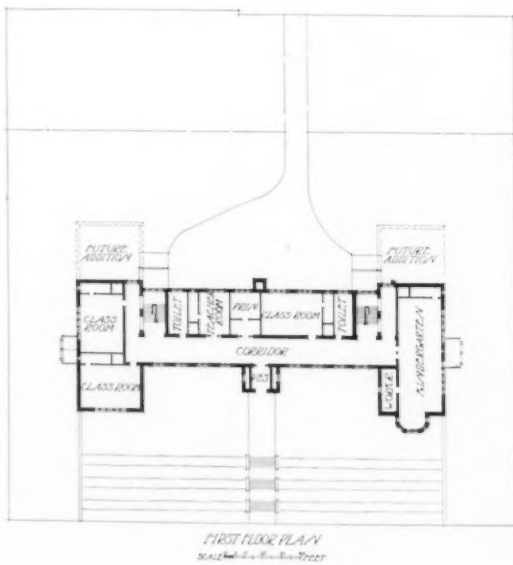
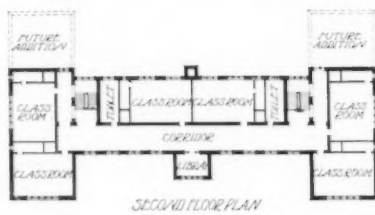
WILLIAM B. ITTNER
ARCHITECT.



THE NEW
FRANKLIN SCHOOL
ST. LOUIS, MO.



U of M



THE NEW MERAMEC SCHOOL, ST. LOUIS, MO.
WILLIAM B. ITTNER, ARCHITECT.

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GARAGE AT CLEVELAND, OHIO.
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